McMaster University Faculty Association's Budget Advisory Committee 2015-16 Report

on

McMaster University's New Budget Model

April 14, 2016

McMaster University's New Budget Model

EXECUTIVE SUMMARY

Introduced in 2014/15, McMaster University's New Budget Model (NBM) has been the subject of considerable discussion within the McMaster community. We believe that while the NBM represents a very significant policy change for McMaster, it is a work in progress that will need ongoing attention as its ramifications for our university become apparent. Several motivations and/or principles are reported as driving the move to the NBM, with improved transparency being particularly important. The new model, especially in its initial implementation, represents a shift towards "activity-based budgeting," in which the revenue associated with each activity is directed to that activity with less redistribution than the previous model. The NBM places most year-to-year risk (the financial residual, be it a surplus or deficit) at the Faculty level.

Currently, 95-96% of operating revenues derive from tuition (49%) and provincial grants/BIUs (46%), and revenues are initially allocated primarily to the six Faculties, plus Arts and Science. Then, the Faculties pay for various aspects of McMaster's general operations. In 2015/16, Faculties transferred 39% of their revenue to support units, including employee support, administration, libraries, technology services, research support, rent and utilities, and student support. Faculties in with a budget deficit (in 2014-15: Health Sciences, Humanities and Sciences) receive a subsidy from the University Fund equivalent to that necessary to bring revenues up to their 2013/14 level.

McMaster's NBM has clear strengths and there were serious problems with the old approach to budgeting. However, as initially implemented the NBM also had clear weaknesses. In its first two years, many changes have been made to the budget model, but key questions remain regarding the NBM's alignment with the strategic vision of the university as well as the need for important opportunities for discussion and collegial governance. The development of the NBM is an iterative process and we are not yet confident that there have been sufficient iterations. Specifically, the NBM's emphasis upon revenue attribution and thereby enrolment, especially undergraduate enrolment, has come at the expense of the research mission. Further, the relationship between *Forward with Integrity* and the NBM is unclear at best, absent at worst.

The Consolidated Budget of the university is in surplus, and while the NBM is a marked improvement on the older, more dysfunctional budgetary model, it is far from perfect. Further, the upcoming renewal of the Strategic Mandate Agreement along with the changes to the provincial funding formula and tuition framework may force a significant reshaping of the NBM. In the interim, the MUFA Budget Advisory Committee recommends: 1) the NBM have a mechanism to allocate discretionary funds to Faculties when necessary for faculty renewal sufficient to maintain McMaster's research intensity; 2) greater effort to eliminate the friction that presently impedes interdisciplinary endeavours within the NBM; and 3) collegial governance of the NBM, not just budgets, to ensure that the NBM aligns with McMaster's mission rather than establishing that mission.

Introduced in 2014/15, McMaster University's New Budget Model (NBM) has been the subject of considerable discussion within the McMaster community. It was these conversations together with an understanding of the importance of the NBM for both McMaster's faculty and, more broadly, the future direction of the institution that led the McMaster University Faculty Association (MUFA) to ask its Budget Advisory Committee (BAC) to examine the NBM.[1] In the course of our work the BAC has consulted widely, and we thank those who assisted us in this endeavour. We hope that many find this report useful. However, we do not view this report as a final step in MUFA's consideration of the NBM. Rather, we encourage continued dialogue among the many relevant stakeholders. We believe that while the NBM represents a very significant policy change for McMaster, it is a work in progress that will need ongoing attention as its ramifications for our university become apparent.

Intersecting with the NBM changes are other developments. Internally, the strategic vision documents *Forward with Integrity I* and *Forward with Integrity II* [jointly referred to as FWI] authored by President Patrick Deane signalled a desire to take McMaster in new directions. Additionally, the introduction of Mosaic, McMaster's new administrative information system (sometimes called an enterprise resource planning system), has interacted in substantial ways with the implementation and operation of the NBM. We expect this interaction to continue to be non-trivial. Externally, provincial policy has been seeking increased differentiation in the university sector. This was embodied in the *Strategic Mandate Agreement* (SMA) that was signed by McMaster in 2014 and will expire in March 2017. Even more importantly, the ongoing provincial funding formula review may transform the university's funding environment directly impacting the operation of the NBM. Other external factors, such as demographic trends, are also undoubtedly affecting the university. The combination of these internal and external factors means that the world is radically different from the one in which the team composing the budget task force began work on developing the model in 2007 and we have already seen the NBM evolve in important ways.

We open with an overview of the NBM, before moving to an analysis. We conclude with an assessment of the NBM and governance at McMaster, and outline some recommendations.

1. An Overview of the NBM

1.1 Context: McMaster's Consolidated Budget and Financial Statements

The NBM applies only to the operating budget, which is the largest of the five component budgets that together form McMaster's Consolidated Budget, which provides an annual statement of the university's overall financial plans. In this light, a budget is traditionally thought of as a quantification of a plan of action. The 2015/16 Consolidated Budget is

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[1] MUFA's BAC has been inactive in recent years, but historical reports are available on the MUFA archives webpage and the BAC's 2015/16 terms of reference are also on the MUFA website.

approximately $1 billion, which is comparable in magnitude to McMaster's budgets and financial statements in recent years. The five separate budgets are: operating, ancillary, capital, research and trust. Although there is some ability to move modest amounts across the five component budgets, we do not address that aspect of budgeting in this year's report but focus on the operating budget and the NBM. It is sometimes thought that there might be reserves hidden across these various budgets, but the BAC does not believe that this is the case. To borrow the words of one of our interlocutors, there are no "secret piggy banks."[2] Of course, judgements are made about the allocation of funds across budgets (and within them) and honest and intelligent individuals may have alternative perspectives regarding those decisions. This is one reason why an informed and ongoing discussion among McMaster's various stakeholders along with greater transparency is beneficial. To foreshadow, we welcome the increased transparency of the budgeting process associated with the NBM on this front.

Typically the operating budget represents about 60% of the consolidated budget, with the other four budgets accounting for the remainder.[3] In recent years the operating budget has oscillated between deficits and surpluses. While faculty tend to focus nearly exclusively on the operating budget, **the consolidated budget as a whole has been in surplus** as operating budget deficits have been offset by surpluses elsewhere.[4]

Whereas the budget can be thought of as *a start of year* plan, McMaster's annual Financial Statement is an *end of year* statement of what actually happened in terms of the year's financial activity. Naturally, there will be small and even occasionally large variances between particular budget targets and the relevant line in the Financial Statement. Large variances need to be understood and addressed when appropriate, but systematic repeated deviations of relevant lines in the Financial Statement from the budgeted amount can undermine the budgeting process and be a cause for concern. We address one such concern with respect to central services below. More generally, much of the discussion below focuses on Faculties (e.g., Social Sciences) and their financial status as either "in surplus" or "in deficit". Again, it is important to differentiate between the budget being in surplus in contrast to the Faculty's financial statement showing (or not showing) a surplus (again, e.g., Social Sciences in the first year of the NBM when the budget was in surplus but the financial

[2] The phrase is Deidre (Dee) Henne's. Ms. Henne is the Assistant Vice-President Administration and Chief Financial Officer.

[3] Budget cycle 2015/16 figures supplied by Dee Henne are as follows: Operating budget 56.7%, Ancillary budget 7.4%, Capital budget 5.9%, Research 19.2%, Trust 10.8%.

[4] Surpluses and/or deficits in the operating budget can be masked by issues such as interest earnings on restricted trusts. The operating budget has not been in an overall structural deficit; instead deficits have been driven by one-time spending plans associated with unit level saved appropriation balances. It is important to note that funds are sometimes moved out of the operating budget to serve other mission related purposes such as the annual transfer of about $4 million from the University Fund portion of the operating budget to the McMaster Capital Reserve. These funds are used for matching federal funding opportunities like the Canadian Foundation for Innovation (CFI) grants, classroom expansions and upgrades.

statement showed a deficit). We focus on the budgeting side of the issue and the NBM, but the limits of this scope of analysis relative to end-of-year actuals need to be appreciated.

1.2 History

In 2007, unease within McMaster's administration regarding budgeting processes prompted the formation of a budget task force. This led to a report in 2009, and then a second taskforce that began work in 2009 and reported in 2011. Eventually, this led to the implementation of the NBM in 2014/15, though there was much intervening discussion and many (sometimes quite important) details that were worked out and in some cases then adjusted. Of late, much of this work has been done by the Budget Model Implementation Team (BMIT). This team, which in accord with the composition listed on the website we view as including the Provost and Vice-President (Administration), has had and continues to have a major influence on McMaster.[5] The composition of the decision-making portion of this team is an important governance and budgeting issue as will be discussed in Section 3.

Several motivations and/or principles are reported as driving the move to the NBM, with improved transparency being particularly important. However, while much of the inspiration to examine McMaster's budgeting was an outgrowth of dissatisfaction with the status quo, it is apparent that a North American wide embrace of "activity based budgeting" was also at work. Other universities, including our neighbours the University of Toronto and Queen's University, moved to similar models prior to McMaster's shift.

1.3 Selected Preliminaries

The starting point for understanding the New Budget Model (NBM) is the relevant university webpage. The NBM terms itself an "activity based budget model", but this terminology can be confusing. One can think of two extreme hypothetical polar case budgeting models. At one end of the spectrum, a budgeting process can first decide what activities the university wants to pursue and then fund those activities without much attention to which ones generate revenue. This is a highly redistributive model. At the other end, there is no redistribution at all and the revenue associated with each activity is directed to that activity. This is a revenue attribution model. Each has quite different incentives for behaviour. **In the public sector context neither extreme is optimal.**

Real budget models for Canadian universities are obviously somewhere in between these two cases and at issue is where on the spectrum a model sits and, in the case of the NBM, where it sits relative to the budgeting model that preceded it. **The new model, especially in its initial implementation, appears to represent a shift towards the revenue attribution pole.** That is, it is a shift towards returning funds to those Faculties where they were generated. This model, in a limited sense, aligns the university with Ontario government

[5] In contrast, and in line with actual practice, some view the BMIT as an information generating group that supports the Provost and Vice-President (Administration) in their decision-making.

policy since the government regulates tuition and provides transfers (Basic Income Units or BIUs) according to a formula it established based on student enrolment though the government does not dictate how universities internally allocate revenue. Revenue attribution also implicitly assumes that the Ontario government's tuition and BIU policies (more or less) "get the prices and policies right" and are intended to be mirrored inside institutions. Having said that, **recent amendments (some made during the writing of this report) have probably made the NBM somewhat more redistributive but still not as redistributive as was the previous model.**[6]

On another dimension, a budget process can centralize or decentralize the absorption of risk, and financial gains and losses. **The NBM places most year-to-year risk (the financial residual, be it a surplus or deficit) at the Faculty level**. This is, in our view, more decentralized than what came before. Of course, a large economic shock will ripple throughout the university, but in the first instance the model envisions the Faculties as the "owners" which retain both surpluses and losses.

1.4 Revenue and Cost Attribution (Flows of Funds)

Under the current model, 95-96% of operating revenues derive from tuition (49%) and provincial grants/BIUs (46%), and they are in the first instance almost entirely allocated to (using the terminology of the NBM) the Activity Units; that is, the six Faculties, plus Arts and Science,[7] with a small amount going to the Vice-President (Research)'s [VP(R)'s] office. One hundred percent of each of undergraduate and graduate tuition, BIUs, and application fees for students registered in each Faculty goes to that Faculty, as does relevant short term interest accruing in the Faculty's operating and research accounts. (Endowment interest is not part of the operating budget and therefore not included in the NBM). In 2014/15 Faculties also received 93% of relevant research overhead, with the other 7% going to the VP(R)'s office. The share of research overhead going to the VP(R) is one of the issues being amended during the writing of this report. It is being increased as discussed below.

From the nominal gross revenue they receive, the Faculties need to then pay for various aspects of McMaster's general operations. **First, the Faculties pay a tax of 8% on gross revenue to provide monies for the University Fund**, which is a university-wide fund to support new initiatives and, at least initially, to make Hold Harmless payments to Faculties in

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[6] Since the NBM is more of a revenue attribution model than the historical model, one measure of the loss to specific Faculties because of reduced redistribution is embodied in Hold Harmless. (Defined below, Hold Harmless measures how much less is budgeted for each Faculty under the new model than would have been the case under the previous one – for those Faculties receiving less.) The Faculty of Health Sciences received by far the largest Hold Harmless transfer in 2014/15. Of course, the Hold Harmless amount is a function of the many parameters of the NBM.

[7] We use the NBM's terminology "Activity Units" interchangeably with the more traditional university term Faculties, which is taken to include the Arts and Science Program (i.e., Arts and Science, Business, Engineering, Health Sciences, Humanities, Science and Social Sciences).

weak financial positions as discussed in greater detail below. **Second, they pay a 1% tax on gross revenue that goes into the Research Infrastructure Fund**. (This rate is being revised while this report is being written, as discussed below.) Revenue from this tax is apportioned to Faculties based on their share of research overhead. (Albeit small, it is at present effectively a redistribution/transfer from Business, Humanities and Social Sciences to Health Sciences, with Engineering and Sciences roughly neutral.) **Third, Faculties pay the "support units" for central services**. In the NBM framework support units are grouped into six categories: Employee Support (e.g., Human Resources, and supplemental pensions), General Administration (e.g., President's Office, Finance, Advancement), General Resources (e.g., libraries, University Technology Services), Occupancy (e.g., utilities, maintenance), Research Support (e.g., Research Finance, MILO), and Student Support (e.g., Graduate Studies, Registrar's Office, student scholarships).

The total budget for support units and the allocation of these total costs across the Faculties are decided in two distinct steps. First, in a process that was (we interpret) initially conceived of as outside the NBM, but that appears to be increasingly and beneficially being drawn into the NBM (as discussed below), the support units' budgets are established. **Overall, in 2015/16 the resulting revenue allocation split is 61% to the activity units and 39% to the support units**, although this split is an outcome of the budgeting process and may vary from year to year. Second, these total support unit costs are charged to the Faculties. Each support unit has an assigned set of "cost drivers", that is, an algorithm that apportions the percentage of each support unit's costs that is paid by each Faculty. In some cases more than one unit's cost is driven by the same cost drivers. Inputs into these algorithms include the number of students registered with the Faculty and the amount of research funding attributed to the Faculty. The details of these algorithms turn out to be quite important, and this is an area of the NBM where increased transparency (i.e., more information) on the NBM website would be worthwhile.[8] Some changes have been made to these algorithms since the NBM was implemented. All such budgeting algorithms are to some degree arbitrary, and involve judgements about which individuals may credibly hold alternative views, so making the details more widely available than current practice would be worthwhile and align with the philosophy of the NBM.

To recap, from the Faculties perspective there are three "taxes" in the model – that is costs to the Faculties that are a percentage of some revenue base – and each also needs to pay a share of the costs of central services. Two of the taxes are percentages of gross revenue (University Fund and Research Infrastructure Fund) and the third is a percentage of research overheads (VP(R)'s office). The University Fund and the VP(R)'s office can be thought of as discretionary funds focussed on innovation. (However, in the short run Faculty deficits loom large for the University Fund). The third is nominally a research infrastructure tax, although it is not clear if there are any restrictions on the ways Faculties can spend these funds. It is a

[8] The detailed metrics used to drive many NBM allocations are not present on the NBM website but instead are included in budget data packs provided by Budgeting Services to the Deans and Directors of Faculty Finance and Administration. Clearly, the details of these algorithms are of central importance to the operation of the model and in determining the surplus/deficit of each Faculty.

redistribution of funds from Faculties where research is less costly to those where it is more so. In contrast, central service costs are not percentages but fixed amounts that in some cases the Budget Committee changes (in principle could reduce, but in practice has increased) relative to the initial submissions in response to inflationary pressures or specific unfunded requests to deal with issues such as utility costs, deferred maintenance, and technology support. Central service costs, including any changes during the Budget process, are then shared among Faculties according to a set of rules (set of algorithms) in a second step. Many central service costs are allocated based on student registration and hence conceptually linked to the BIU that stays with the Faculty of registration.

Beyond the above formula costs, from their nominal gross revenue each "Faculty of student registration" must also reimburse other Faculties for teaching those students taking courses outside of their Faculty of registration. That is, home Faculties must pay teaching Faculties for service teaching. The total value of service teaching undertaken by one Faculty for students registered in another is subtracted from the total value going in the other direction with the prices being 100% of the average per unit tuition of the Faculty doing the teaching. Since more students from high tuition Faculties take courses in low tuition Faculties than the reverse, there is a surplus and it is split 50:50 between the two. An important transition mechanism initially built into the NBM was the "Hold Harmless" provision. It stipulated that Faculty revenues would not be less than their revenues in 2013/14 and, where required, is effectively a top-up to Faculty budgets to that level from the University Fund. Importantly, Hold Harmless was based on budgeted amounts, not the actuals observed in the Financial Statements. Faculties in deficit (with respect to the operating budget only) in the first year of the model were: Health Sciences, Humanities and Sciences. Given inflation and growth, the idea was that relatively quickly the Hold Harmless provision would shrink and then disappear in Health Sciences and Sciences.

Although well intentioned, it now appears that Hold Harmless was a trap (what economists would call a classic "poverty trap"), for its existence (at least in principle) generated incentives that discouraged Faculties in deficit positions from considering means of revenue generation, knowing that any additional revenue that was generated would not improve their overall financial position, with consequent effects on morale in these Faculties. In a period of expansion Hold Harmless might well have worked since one post-implementation modification to the NBM was a relatively generous sharing rule for new revenue so the poverty trap was substantially mitigated. Given the introduction of the sharing rule, and in the current context of relatively stagnant revenues, it had the potential to decline very slowly. Appreciating this context, David Wilkinson, the Provost and Vice-President Academic, announced in his State of the Academy Address on March 2, 2016 that Hold Harmless would be replaced for a limited three year period with a fixed subsidy to provide incentives for Faculties with budget deficits to seek new revenue generating activities. In general terms this is a step that the BAC welcomes, although the ramifications of the uncertainty regarding budgets beyond the three-year window of the subsidy remain unclear. This appears to be meant to provide a window with strong incentives for structurally indebted Faculties to find cost savings and/or revenue generating opportunities.

The abolition of Hold Harmless reflects an important operational aspect of the NBM's evolution. Since its implementation the NBM has been dynamic in the sense that it has been modified frequently. The attribution of revenue deriving from service teaching is an example of this. In its original iteration, 50% of revenue derived from service teaching was to go to the faculty providing the teaching. Progressively this was moved to 75% and to its current 100% accruing to the faculty providing the teaching (at the teaching faculty rate with a 50-50 split of the residual). We agree that the current rate more accurately reflects actual costs.

The modifications of the NBM thus far are welcomed by the Budget Advisory Committee. However, there will undoubtedly continue to be a need for further revisions. **Also, key questions remain regarding the NBM's alignment with the strategic vision of the university as well as the need for important opportunities for discussion and collegial governance.** That is, it is important to ask iteratively: As the NBM changes, is the model remaining faithful to the stated aim of furthering McMaster's mission?

1.5 NBM Modifications of April 2016

McMaster's most recent modifications to the NBM, announced online on April 6, 2016, are too recent for either their details or implications to be fully understood. Nevertheless, the key elements appear to address many of the most obvious short-term problems and some lay the groundwork for improved budgeting processes going forward. The Provost categorizes the changes as affecting five key elements of the NBM, although some have further ramifications.

The first are actually two interrelated process modifications. Part one recognizes that under the NBM the Faculties explicitly purchase services from support units and there has consequently been a call for Faculties to have greater input. Going forward, Faculty Deans will be involved in the budget presentation process, able to ask questions and make comments related to the proposed support service units' submissions as they go to the Budget Committee. This is an important innovation and has the potential to increase communication and improve the alignment of the services provided with the Faculty needs. Part two seeks to further open the budgeting process to the McMaster community. At a very early stage various stakeholders, in particular faculty and students, will be able to discuss budgeting priorities. This is very much in line with the philosophy of transparency associated with the NBM and we welcome these changes.

Second, as also discussed elsewhere in this report, Hold Harmless is being eliminated and replaced by fixed grant that will top up, for three years, the operating budgets of Faculties to the allocation they had in the year prior to the introduction of the NBM. However, given the other changes made as part of this package, the total required to achieve this target is reduced. This implies that there is greater capacity in the University Fund to pursue innovation across the university. Naturally, there are no new funds in the overall operating budget, so this package of policies can be viewed as redistributing monies both across

Faculties and towards the University Fund. **Moreover, there is also a transfer of financial risk towards Faculties, and away from the University Fund, associated with this policy change**. The Provost promises a discussion near the end of the three-year period to consider any remaining deficits.

Third, recognizing that provincial policy allows some Faculties greater scope for revenue generation resulting from tuition and BIUs, the Research Infrastructure Fund tax rate is being adjusted. It will no longer be the same for all Faculties, but those with high tuition (we presume, Business and Engineering) together with the Arts and Sciences program will pay a 3% tax rate whereas other faculties will continue to pay 1%. The allocation algorithm for monies from this Fund appears to remain unchanged and funds will be split among the Faculties based on their research overheads.

Fourth, the VP(R) office's capacity is being enhanced. Instead of 93% of overheads going to Faculties to support Faculty-level research, with 7% going to the VP(R)'s office to support mostly inter-faculty initiatives, the VP(R)'s share will increase to 10%. We view this as beneficially supporting interdisciplinary (inter-Faculty) research, and supporting university-wide themes.

Fifth, initially student bursaries were paid from a central fund and classified as a support unit cost in the NBM. However, demand for these funds is very unequal across Faculties, especially given government mandated minimums for students who pay higher tuition. In effect, the current changes allocate costs across Faculties more in line with actual expenditures. This increases the costs of high tuition Faculties, and reduces those for Faculties with lower tuition, removing redistribution towards high tuition Faculties. This also serves, to some degree, to reduce the Hold Harmless (or more formally the new subsidy) amounts and thereby the draw on the University Fund. This policy change illustrates the importance of the details of the allocation algorithms underlying the NBM since modest changes can shift funds that are substantial fractions of Faculty deficits/surpluses.

The Provost has indicated that he hopes these will be the last modifications to the NBM for a few years, with a formal evaluation after new model has been operating for five years. While we agree with his hope that these modifications have adequately addressed all of the outstanding issues with the NBM, we would prefer to await appropriate evidence before drawing that conclusion. It may well be that further adjustments could be beneficially made sooner rather than later.

2. Analysis

McMaster's NBM has clear strengths and there were serious problems with the old approach to budgeting. However, as initially implemented the NBM also had clear weaknesses. Many of the concerns that were most obvious in the short-run have been addressed through a series of adjustments. **Although effects of these incremental changes will not be fully understood immediately, on the whole we believe they are in the right**

direction. Nevertheless, we do not think that the evolution of the NBM can end quite yet (or ever). We need to be aware of various types of problems, beyond the large short-run ones that became so apparent in the NBM's first year of operation. In fact, given the marked changes to date, we view the second year of the NBM as a *de facto* "first year" – the first year of the revised NBM – that will require vigilance akin to that of the current year. Also, longer-term and perhaps smaller problems that may not be apparent in a particular year (especially a first year) but can be quite serious when the impact is cumulative over a number of years may well need to be addressed. Related to this, the implementation of the NBM has coincided with the very difficult shift to Mosaic and it is at times hard to disentangle the effects of the two on, particularly, day-to-day operations. We need to ensure that Mosaic is not a limitation to the financial operations of the university as the NBM continues to be implemented. Finally, we are also concerned about governance issues surrounding the NBM going forward.

Our discussions with Faculty budget managers, Deans, and other administrators revealed unanimity that the NBM is a marked improvement on its predecessor. Under the old model the costing of existing programmes, departments, and support units was difficult and forecasting even more so. Universally those we spoke with lauded the NBM for its increased transparency and clarity, and its role as a platform for planning. It is now possible to budget accurately for the delivery of existing programs as well as to assess the likely costs associated with future choices.

Another benefit of the NBM is that new cross-Faculty negotiations appear to be simpler to conduct. Ironically, fitting historical cross-faculty collaborations, such as those associated with Psychology's programs, into the NBM continues to be quite difficult and may need an additional evolutionary adjustment to the model's structure. The existence of the University Fund is also a potential strength: it allows McMaster to pursue strategically meaningful options that are in the university's interest rather than solely in the interest of one Faculty and/or are beyond the capacity of a single Faculty to mount. Of course, the process for determining which options are pursued is of increased importance given the NBM. **Finally, there is little doubt that the NBM has raised the profile of budgetary issues on the campus**, a point acknowledged by the Provost in his State of the Academy speech. Informed, balanced commentary on the financial health of McMaster and the broader university sector is welcome.

Against these advantages, there are real concerns. A large number of changes have been made to the NBM and while we think that this package of reforms is useful, it's not yet clear how its various elements will work together in practice. As mentioned, **in some sense the next fiscal year will be the first of NBM II, and it deserves as much attention as did the first year of the original NBM** (though, hopefully, with far fewer concerns arising). The development of the NBM is an iterative process and we are not yet confident that there have been sufficient iterations to slow the evolutionary process.

A second worry relates to the provincial and global environment. Looking at other universities that have implemented new budget models, the process is easier in periods of revenue growth. Differences between the university-sector rate of growth of costs and that for the general economy can also be problematic. In the extreme, what happens if, in the short run, revenues increase at a markedly slower rate than costs? Where will the ensuing cuts fall? This is not hypothetical, given provincial enrolment patterns and uncertainty regarding the province's future tuition policy. The NBM's internal tuition framework implemented in 2014/15 reckoned on tuition increases of 3% for all undergraduates in Arts and Science and other undergraduate degree programmes while the professional undergraduate programmes such as Engineering were allowed tuition increases of 5% in level 1 and 3.4% in the years beyond. Looking ahead, starting in 2017/18, the internal tuition framework "is assumed to be **0% for all domestic students in eligible programs**" (emphasis in original and on current website).

Third, support units (e.g., student support, employee services, libraries, utilities and maintenance) have been functioning on the basis of zero increases to their budgets for some time (save for a modest adjustment in 2014/15 to allow for inflationary pressures), and these units have coped in large part by drawing down reserves and making staffing reductions. The BAC has been informed that support unit reserves will be exhausted within three years, perhaps stretching to five years in the most favourable circumstances. The implications of a stagnant or reduced revenue world in which the support units have limited wherewithal to absorb cost reductions are apparent: **soon cost adjustments necessary in the operating budget will fall disproportionately, perhaps exclusively, on the activity units, that is the Faculties, to the detriment of their ability to deliver on the academic mission of the University**. Perhaps in recognition of this possibility, first year enrolment is expected to increase by 225 students across the university for September 2016. How frequently recourse to such expedients will be possible is unclear given the overall demographic trends in the province. We suspect that substantial efforts at improving student retention are also required on this front. If a slowing or declining revenue outlook looms, other tensions within the NBM, especially inter-Faculty ones, will become more acute.

One tension is the funding of interdisciplinary (especially inter-Faculty) activities, which is a fourth concern. McMaster recognizes that the promotion of interdisciplinarity is desirable, intellectually, pedagogically, and to make the best use of our resources. It is also a key component of FWI and McMaster's reputation for innovative approaches to teaching and research. While the NBM has some advantages in this regard, it also has negative incentives at the interstices of the interdisciplinary imperative and without care may encourage Faculty-level insularity in the medium- to long-term (even if such issues can be suppressed by active management in the short term). Revisions to the NBM as well as responses beyond budgeting may be appropriate.

Several examples of this contention exist. As alluded to earlier, differential tuition coupled with differential BIUs has paved the way for markedly different revenue streams among the Faculties (largely as a result of provincial government policy). The costs associated with service teaching have been a particularly acute friction leading to significant NBM revisions. While the NBM, as noted earlier, has been adjusted progressively to its present state wherein 100% of the tuition derived from service teaching go to the Faculty providing the teaching (at the tuition rate of the teaching faculty, with a 50:50 split of any residual), it is unclear that this transfer of tuition revenue at the teaching Faculty rate is sufficient. For example, when Engineering students take Physics, taught by the Faculty of Science, they receive the regular weekly instruction as well as a lab and a tutorial. Science students taking equivalent courses receive equivalent lectures and a lab but no tutorial. Moreover, there are inconsistencies across Faculties in how "units" are allocated to courses that prior to the NBM were innocuous but are now of financial relevance. For example, many Engineering courses with a lab are worth four units (in contrast to courses without labs, which have three units), whereas in Science courses with labs are assigned three units.

Further, there are concerns that course advising for students may be influenced by Faculty budget contexts. That is to say that students may be encouraged, perhaps gently, to take courses in one Faculty or another for budgetary rather than pedagogical reasons. Similarly, there should be no pressure on faculty to compromise academic rigor in an effort to compete for students. **We think that appropriate measures need to be taken to ensure that the student educational experience is not in any way hampered by the NBM**. In fact, we should continue to reinforce those elements of the NBM that seek to enhance the student experience.

In the same vein, in the NBM inter-Faculty programs are to be addressed via a series of situation-specific Faculty-to-Faculty memoranda of understanding. While the NBM has been very successful in supporting new inter-Faculty collaborative educational programs, there are important outstanding issues regarding existing programs that need to be addressed. In the last year several new inter-Faculty programs have been instituted. Many of those we interviewed attributed the increase in the completion of these new inter-Faculty agreements to the transparency and clear basis for negotiation of the NBM. However, long-standing inter-Faculty programs such as: Biochemistry involving Science and Health Sciences; and the Social Psychology and Psychology, Neuroscience & Behaviour programs offered by the Department of Psychology, Neuroscience & Behaviour shared between Science and Social Sciences remain unsigned. Clearly, these are start-up issues for the NBM, but that these issues have not been settled points out that the costs and revenues associated with the delivery of these interdisciplinary teaching programs remain contested.

The NBM's emphasis upon revenue attribution and thereby enrolment, especially undergraduate enrolment, has come at the expense of the research mission. Research is a hallmark of McMaster; it is part of what McMaster is: a research-intensive university. This basic trait is recognized in both FWI and the SMA. The first principle of the latter is to "Strengthen research excellence and graduate education and training, while integrating research into our academic mission." **Despite the importance of research to McMaster, the value of research and graduate education is nearly invisible in the original NBM**, although the recent modifications hopefully improve on the situation. However, changes to governance may be important to ensure that this problem is addressed in the long-term.

Two observations are noteworthy. First, undergraduate tuition varies among Faculties and has been increasing asymmetrically within the university. Second, BIUs are weighted differentially according to program and faculty, furthering disparity in revenues. Some Faculties (Engineering, Business) have seen their revenue generation climb much more quickly than others (Science, Humanities) with consequent ramifications for the relative financial position of these Faculties. This has given rise to the widespread perception that the NBM has fostered winners and losers among the Faculties. In our view, the NBM has clearly affected the relative financial situation of the Faculties and the number of, sometimes non-trivial, adjustments to the model have served to highlight the importance of its parameters in shifting funds from one Faculty to another. However, it is difficult to disentangle the impact of the NBM from pre-existing financial difficulties, such as some faced in Humanities that predated the NBM. To some degree the NBM has shifted resources (and shifts them in ways that continue to change), and to some degree it has served to highlight and draw attention to existing and/or trending financial problems.

3. Governance

Formally, McMaster's oversight of budgeting is clear. Budgets are allocated to the support units as well as the activity units by the Budget Committee of the University Planning Committee. Support units and activity units must develop their projected budgets and then present them to the Budget Committee. Once they are approved by the Budget Committee, members of Senate may comment upon the proposed budgets before they are presented to the Board of Governors, which approves formally the university budget. In practice, however the clarity of this process is occluded by a variety of factors.

One is the on-going modifications to the NBM. These changes, great and small, have been shaped significantly by the BMIT.[9] While the necessity of the BMIT (or some body akin to it) is unquestionable, its actions have grown remarkably broad in scope. A case in point involves the decision to expand first year university enrolment by 225 noted earlier. This decision appears to have been strongly influenced by the BMIT in response to worries about revenue shortfalls. Plausibly it may be argued that the Provost chairs the BMIT and has the final say in its deliberations, but the risk of the displacement of authority without appropriate institutional process exists. Furthermore, **it is unclear that significant changes to the NBM receive adequate attention from the University Planning Committee's Budget Committee and Senate when presented as part of lengthy budget documents and submissions**. At issue here is that these bodies need to address the NBM apart from discussions of the current budget.

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[9] BMIT membership consists of: Dee Henne, the Assistant VP Administration and CFO; and Linda Coslovi, Executive Director Finance and Planning (Academic), as well as Lou Mitton, Iain Clarkson, Jacy Lee and John Dube. The BMIT responds to directives from the Provost, modelling scenarios as requested. Once completed, their analysis is presented at a planning meeting chaired by the Provost in which Roger Couldrey, the Vice-President Administration, Dee Henne, and Linda Coslovi are the other participants.

In a different form, the activity units, specifically the Faculty Deans and their budget managers, have chafed at their inability to scrutinize the support units as to their costs and the services provided. The NBM has had the effect of redistributing authority to the Deans but in ways that are halting rather than complete. The BAC was told that the Faculty of Humanities, for example, was charged $1.7 million in the most recent budget iteration as its share of costs associated with University Technology Services (UTS). Humanities would like to be able to assess whether this allocation is reasonable. The Provost understands that there is merit to such requests. Consequently he has indicated that beginning in the fall of 2016 that the activity unit Deans will be given the opportunity to question and comment upon support unit budget requests, a step that the BAC agrees is both sensible and prudent. **This commitment represents a welcome step in the direction of strengthening governance within the NBM.**

Less encouragingly, **there remains a void at the heart of the relationship of the NBM and the University.** Bluntly, the BAC is not convinced that there is a holistic appreciation of the NBM and FWI. The Deans have had their authority expanded in some ways, while remaining sidelined in some areas by the NBM and allocation directions determined by BMIT and presented to Budget Committee. The Senate has a limited role in budget oversight, while the Budget Committee's bailiwick is to scrutinize. The Provost is one individual with many calls on his time and energy. Likewise, the President and the Board of Governors are drawn in many directions. Problematically, there can be a tendency to assume that the NBM *is* the University plan, as opposed to a tool employed to achieve that plan.

4. Recommendations

The NBM represents a positive step forward. The BAC agrees that it is a marked improvement on the older, more dysfunctional budgetary model that had existed at McMaster. Acknowledging that this is so does not mean that the NBM is perfect. It is not. We are encouraged that all of those who shared their time so generously with the BAC appreciate that imperfections in the NBM remain. Collectively those we spoke with (see list at the end of this report) are committed to rectifying the weaknesses in the NBM. Another reason for optimism lies in the Consolidated Budget of the university, which, it is worth repeating, is in surplus. Stating this is the case does not change the potential financial headwinds that the University faces, but it should give confidence that McMaster can cope with them. In the short-term, there is a great deal to be said for pursuing incremental change to the NBM. The Provost's recent announcements are consonant with this approach. However, **it is conceivable that the upcoming renewal of the SMA along with the changes to the provincial funding formula and tuition framework may force a significant reshaping of the NBM**. The shape of these external considerations should be known by the second half of 2017.

What might be done in the interim? We suggest three steps.

1) Our conversations have demonstrated that while there is anxiety across the campus in terms of the NBM and its effects, nowhere is this more acute than in the Faculty of Science. Only 4.74% of Faculty of Science appointments (CLAs, permanence, Teaching-Track, Tenure, Tenure-stream) are tenure-track (i.e., pre-tenure) currently. No other Faculty has such low percentage of new faculty.[10] We understand that this undesirable situation has been in train for some time and that other considerations are at work in producing an inverted pyramid within all Faculties, but the NBM is making it more difficult to redress this unhealthy situation in Science, resulting in low morale. Building on this specific example, **we recommend that the NBM have an ongoing mechanism to allocate resources from the University Fund to Faculties when necessary for faculty renewal sufficient to maintain McMaster's research intensity.**

2) The BAC is persuaded that the NBM struggles to accommodate certain interdisciplinary initiatives (though it does well on some others). Given the likelihood that such initiatives will only increase with time at McMaster – witness the recent report of the *Task Force on Future Directions for the Faculties of Humanities, Social Sciences and Science* – we believe that greater effort is needed to eliminate the friction that presently impedes interdisciplinary endeavours within the NBM. Ensuring that the efforts at ironing out disputes among the Faculties regarding revenues and cost-sharing for teaching that crosses Faculty boundaries (service teaching) have hit their targets seems crucial. This will require continued efforts to accurately assess the cost of service teaching. Further, making sure that the only incentive is for students to be given guidance regarding course selection for pedagogical reasons, and to the enhancement of their educational experience, needs to remain the highest priority. **Operating budget financial incentives cannot be permitted to negatively impact the educational experience.** Finally, producing a fair and equitable solution to funding historical inter-Faculty teaching programs should be a priority; this will likely require resource input from the University Fund.

3) A third area of concern is governance. Here we want to note some of the paradoxes of the NBM. It has promoted transparency across the institution for the betterment of McMaster. It has devolved greater responsibility to those such as Faculty budget managers and Deans who are best placed to assess needs at the local level. But the NBM has also sluiced authority to less accountable bodies, such as the BMIT. And though formal opportunities for discussion at the University Planning Committee's Budget Committee and Senate are envisioned, **too often, we fear, the focus is on the actual allocations and budget bottom-lines rather than the model that is producing them**. Beyond this, given the manifest responsibilities of the individuals and bodies charged with guiding McMaster, the BAC is concerned that there is inadequate oversight of the NBM – as distinct from the budget -- at the highest level of the university**. There is a need to ensure that the NBM aligns with**

[10] The percentages of tenure-track appointments for the other faculties (FHS is not included due to its idiosyncratic appointments structure) are: Business 8.22%; Engineering 12.57%; Humanities 8.55%; Social Sciences 13.33%. Figures compiled from the MUFA database.

McMaster's mission rather than establishing that mission. The incentives associated with the NBM's structure have both medium- and long-term implications that need to be both understood and assessed. To address this issue, and without any complaints regarding the individuals who currently staff it, we recommend thought be given to the BMIT and that it be made a more formal and ongoing part of university governance with membership according to position, not person. Further, we recommend that the VP(R) accompany the Provost and Vice-President Administration to all planning meetings considering the scenarios that emerge from the BMIT, to represent the mission of graduate education and research.

In the slightly longer term an additional set of priorities emerge.

1) Many are concerned that the NBM "ignores" research. While the recently announced modifications to the NBM assuage these concerns, a broader analysis seems warranted given that research is not exclusively funded through the operating budget. Research funding also involves the university's other budgets and the issue needs to be addressed holistically. Does McMaster have the appropriate funding model to support continued growth in both research intensity and quality? A broadly representative group, perhaps lead by the VP(R), should address this concern.

2) Once the subsidy that replaces the Hold Harmless transfer winds down, the University Fund will grow to become a major driver of new initiatives. However, the governance structure around the decision-making process allocating such funds remains opaque. This should be clarified and the rigour of the process for selecting among potential projects made clear.

Appendix A: BAC membership & list of interviewees

Membership:

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The BAC would like to thank the following for their time and cooperation:

- David Wilkinson, Provost and Vice-President (Academic)
- Roger Couldrey, Vice-President (Administration)
- Deidre (Dee) Henne, Assistant Vice-President (Administration) and CFO
- Allison Sekuler, Acting Vice-President, Research
- Sean Van Koughnett, Associate Vice-President (Students and Learning) and Dean of Students
- Linda Coslovi, Executive Director, Finance and Planning (Academic)
- Kevin Sulewski, Chief Operating Officer, Health Sciences
- Nancy Balfoort, Director of Finance and Administration, Engineering
- Len Waverman, Dean, DeGroote School of Business
- Susan Mitchell, Director of Finance and Administration, School of Business
- Robert Baker, Dean, Faculty of Science
- Kathleen Blackwood, Director of Finance and Administration, Faculty of Science
- Jerry Hurley, Dean, Faculty of Social Sciences
- Rose Mason, Director of Finance and Administration, Faculty of Social Sciences
- Ken Cruikshank, Dean, Faculty of Humanities
- David Kingma, Director of Finance and Administration, Faculty of Humanities
- Herbert Schellhorn, Professor, Department of Biology