ABB Phase III Supplement Subcommittee Report

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GPSS and ASUW Representatives were invited to participate, but did not.

Executive Summary

This report focuses on the subset of GOF/DOF funds known as the Supplement as it connects to the ABB Phase III review and its strategic redeployment to better reflect current budget priorities. Any model for redistributing funds among units requires both a *source* of funds and a mechanism for determining their *distribution*.

Source: Reapportioning a small fraction of Cutover each year is a reasonable way to realign spending with current budgetary priorities while minimizing disruption to individual units.

- The Cutover (non-formulaic budget distribution to units in FY12, previously referred to as "hold harmless") is based on historic budgetary decisions that are at least 9 years old.
- ABB Formula and New Supplement reflect current revenue-generating activity (instruction and research) and recent legislative directives, strategic reinvestments, and internal reallocation of responsibilities. They are thus more closely aligned with current activities and priorities than the Cutover.
- Previous committees and task forces have determined that the initial FY12 Supplement was not intended to be permanent and that its redistribution is at the discretion of the Provost.

Distribution: A general mechanism is required to support investment in new initiatives and maintain excellence in areas that do not directly generate enough revenue to sustain themselves, while also directing sufficient funds to support current revenue-producing activities.

- A long-term, workable model for redistribution of Cutover funds will be nimble over time and not a technical solution to a current, specific problem.
- For strategic investments, a viable model exists in the Provost Reinvestment Fund process, whereby individual units make annual requests that are reviewed and acted upon by the Provost in consultation with the Senate Committee for Planning and Budgeting.
- For funds that follow current activity, the total revenue generated by instruction and research is considered to be the most appropriate (though clearly approximate) measure of activity.

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Introduction and Context

In August 2019, the Provost charged a steering committee responsible for the overall work plan, project scope, and deliverables of the third formal review of the Activity Based Budgeting (ABB) construct during the academic year 2019 – 2020. In addition to outlining the charge and suggested timeline for work, the Provost also directed the work of three subcommittees to provide preliminary analysis and recommendations to the steering committee during Autumn quarter. The work of these subcommittees was based on areas of focus identified during the scoping and planning process. The subcommittees' areas of focus are as follows:

- Tuition Taxation and Formulae Subcommittee
- Supplement Subcommittee
- Research Support Subcommittee

In the charge, the Provost outlined the scope of work for each subcommittee, instructing the subcommittees to complete their reviews with a report that would support the steering committee's efforts to make recommendations for changes to the ABB construct. The specific scope of work for the Supplement Subcommittee was narrowly focused to assess the implementation of 2-3 models, and to consider shifts in discretionary supplement funding in conjunction with the tuition taxation work of the first subcommittee.

Over the past three months, a subcommittee of faculty and staff met to review the Provost's suggested models, and to suggest alternative models that would serve to meet the objective of shifting discretionary supplement funding to provide support for and better alignment with the University's mission critical activities. The following report outlines the subcommittee's analysis and assessment.

Multiple committees and task forces have reviewed the Supplement over the past few years. Previous committees have established that (*i*) unit supplements can and should be adjusted at the discretion of the Provost, and (*ii*) Cutover funding was not intended to be permanent. The Winter 2018 Joint Task Force recommended that Supplement redistribution be carried out in conjunction with a holistic unit review that includes the differential cost of programs and that the Supplement (at that time the Cutover and subsequent additions were not separated) be taxed up to 4% to allow for strategic reinvestment. This general framework guided our work. Differential cost information is currently being gathered as part of the Delaware Study, but will not be available on the time scale of this report.

Note: This report primarily focuses on model options to redistribute a small portion of the original "calculated base at cutover" portion of the supplement. For background and historical information on the supplement and its components, please refer to the Supplement Overview in Appendix 1.

Subcommittee Charge

The ABB Phase III Supplement Subcommittee (SSC) was encouraged to consider "strategically adjusting supplement levels [as] a mechanism to ensure that areas of relative financial constraint on the activity side are supported adequately over a longer time horizon." However, the specific charge to this subcommittee is as follows:

> *The work of this subcommittee is narrowly focused on assessing the implementation of perhaps just 2-3 models, and considering shifts in discretionary supplement funding in conjunction with the tuition taxation work of the first subcommittee.*

Subsequent input from the ABB Phase III Steering Committee requested that the SSC also address implementation of any proffered recommendations.

Supplement Redistribution Models

The Provost suggested three redistribution mechanisms for OPB to model and the subcommittee to review. The SSC reviewed these, discussed several others in general, and reviewed 3 additional models. Details of the reviewed models are in Appendix 2.

Brief Description of Models

Provost 1: Redistribute Cutover funds to A&S by multiplying growth in Natural Sciences Division Undergraduate Student Credit Hours (UG-SCH) since ABB went into effect by the average Cutover funds per UG-SCH on campus. Doing so would withhold (remove) 1.9% of Cutover funds from all units except A&S.

Provost 2: Redistribute Cutover funds to A&S by multiplying growth in Natural Sciences Division Undergraduate Student Credit Hours (UG-SCH) since ABB went into effect by the Cutover funds per UG-SCH for the Colleges of Environment or Engineering. Doing so would withhold 3-6% of Cutover funds from all units except A&S.

Provost 3: Withhold 100% of the Cutover from all schools that produce more than 2% of UG-SCH, and redistribute to these units in proportion to current UG-SCH.

SSC A: Withhold *X*% of the Cutover and redistribute to support strategic reinvestment.† Reinvestment decisions would be made by the Provost with the advice of the Senate Committee on Planning and Budgeting (SCPB) similar to the Provost Reinvestment Funds process.

SSC B: Withhold *X*% of the Cutover and redistribute to each unit proportional to FY20 activity as measured by the sum of the formulaic components of ABB (Tuition + ICR).†

SSC C: Withhold *X*% of the Cutover and redistribute a fraction *f* according to model SSC A and (1–*f*) according to SSC B.†

† Initial recommendations are that *X* should be less than 3%, and that the process be phased in over 2 years, although the value of *X* should be determined by the Steering Committee in conjunction with any change in taxation rates on tuition and ICR. For all

three SSC models, the process of withholding *X*% could continue in subsequent years as appropriate, with the value of *X* possibly varying with time.

Source of Funds to be Redistributed

Any model for redistribution of funds among units requires both a source of funds and a means for determining how they will be distributed. Of the various components of unit revenue (see Fig. 1 and Table 1 in Appendix 3), the *SSC views Cutover as the element most appropriate for the source of these funds*, and not the total Supplement.

"New" Supplement Considerations: The Supplement disaggregation generated by OPB (Fig. 1) shows that over one-third of the New Supplement is distributed proportional to tuition or to compensation as a result of tuition backfill and fund-split allocations from the State budget. The remainder of the New Supplement is the result of recent documented, conscious budget decisions by the Provost, changes in responsibility for previously funded activities, and specific provisos from the State. It may be appropriate to establish a long-time-scale review process to periodically reassess these decisions to determine whether and when any of these funds should be returned to a strategic reinvestment pool; however, the decisions leading to the New Supplement are sufficiently recent that the primary source for redistribution should be Cutover.

Cutover Considerations: As detailed in Appendix 1, Cutover is a major component of the cross-subsidization among academic units that is essential to a comprehensive world-class university. It also encompasses support for resources that benefit the entire university but are historically managed by a particular unit, such as the Arboretum or Hall Health Pharmacy. In addition, Cutover includes historical distributions allocated in a similar manner to New Supplement, for example the legislative proviso for the Family Medicine Residency Network, but the ability to identify specific provisos or provost-directed allocations depends on the institutional memory of the schools and colleges, as this information was not specifically retained by OPB. There are also schools and colleges with annual operational deficits whose specific budget agreements may limit re-allocation of Cutover funds. Nevertheless, the SSC recommends that the Cutover be the source of funds for redistribution, with the advice that the Provost keep in mind the financial status of schools and colleges such that re-distribution does not create major financial challenges for schools and colleges identified for supplement reduction.

Mechanisms for Determining Cutover Redistribution

The Provost models redistribute Cutover based on undergraduate student credit hours (UG-SCH) and/or full-time undergraduate students (FTE). The SSC discussed several alternate activity measures as possible bases for redistribution of the Cutover, as well as non-formulaic strategic reinvestment. *Total ABB Formulaic revenue was regarded as the most appropriate measure of current activity*, should a formulaic redistribution be considered.

Activity Measures: Figure 2 (Appendix 3) shows the result if various measures of activity were to form the basis of redistribution of the entire (positive) Cutover ($125M, red), including total ABB formula revenue (tuition plus ICR, gray/purple), undergraduate SCH (green), upper division and graduate SCH (blue), and ladder faculty plus full-time lecturers (brown). *Total ABB revenue*

is proportional to current revenue generating activity, including both instruction and research, and is incentivized by the current ABB formulae. *Undergraduate activity*, which is the largest source of revenue and the subject of the Provost models, is the factor with the largest variance among the schools and colleges, being nearly absent from 5 schools and predominantly located in A&S. *Upper division and graduate activity* is often regarded as more costly per student credit hour than lower-division activity, although we note that lower division courses often involve a large number of graduate teaching assistants, and these assistantships enable many graduate programs, so the two activities are inextricably linked. The distribution of *full-time tenure/ tenure-track and lecture faculty* among schools largely tracks total activity, with the main outliers being schools with clinical faculty who were not included in the faculty total.

Undergraduate SCH is the basis of the Provost models, while total ABB revenue is the basis of SSC B; these are discussed further below. A model based on upper division and graduate activity was rejected, since, without additional information from the Delaware Study, there is no way of knowing how well the 20% ABB tuition component that is proportional to the number of degrees mitigates these differential costs. The measure of faculty numbers used omits research, WOT, clinical, and part-time faculty, of whom many, but not all, are supported on non-state budgets; it was thus deemed less robust than the total ABB formulaic revenue.

Model Assessment

Below, we list each reviewed model with its positive and negative points. Full descriptions of each model are in Appendix 2.

Provost 1: Redistribute Cutover funds to A&S by multiplying growth in Natural Sciences Division Undergraduate Student Credit Hours (UG-SCH) since ABB went into effect by the average Cutover funds per UG-SCH on campus. Doing so would withhold (remove) 1.9% of Cutover funds from all units except A&S.

Pro:

1. Withholding and redistributing a small percentage of the Cutover is a sensible approach that avoids taxing more recent growth and commitments.
2. The overall amount this model takes from units could be implemented on a short (e.g. two-year) timescale.

Con:

1. The model presupposes that Natural Sciences/A&S requires a revenue increase without considering if any other (sub)units may have competing needs. Our subcommittee was provided no information regarding the current A&S budget distribution among its divisions to inform this presupposition.
2. The model presupposes that Natural Sciences drives the need for an A&S revenue increase, but the issue could equally well be framed that the Arts, Humanities, and Social Sciences have experienced a decrease in student credit hours and majors at a rate

that is not sustainable without central investment to preserve activities that are vital to the university as a whole.

3. The methodology is based on the assumption that the entire Cutover is related to undergraduate teaching (cost per undergraduate SCH), which is inaccurate overall and disproportionately inaccurate for some units; this re-allocates historical support for non-teaching activity (e.g., research, non-tuition generating educational activities, facilities) across campus into teaching in a particular college.
4. The choice of the initial/final state for calculating SCH growth is somewhat arbitrary. The STEM proportion of SCH started to rise before 2012 without proportionate increases in faculty lines, and growth in Natural Science undergraduate majors has recently been capped due to lack of resources.
5. This model is a one-time fix for a specific problem, and does not address long-term redistribution of Cutover; the model's dependence on change since ABB implementation makes the mechanism difficult to repeat.
6. The uniform tax rate across units does not account for ongoing commitments covered by Cutover funds nor specifically consider the financial status of the Schools and Colleges receiving a reduction in their current Cutover funds.

Provost 2: Redistribute Cutover funds to A&S by multiplying growth in Natural Sciences Division Undergraduate Student Credit Hours (UG-SCH) since ABB went into effect by the Cutover funds per UG-SCH for the Colleges of Environment or Engineering. Doing so would withhold (remove) 3-6% of Cutover funds from all units except A&S.

Pro:

1. This model acknowledges that undergraduate instructional costs in Natural Sciences are above average in a way similar to other STEM disciplines on campus.

Con:

The 6 Con points for Provost 1 also apply to model Provost 2.

7. The premise of this model is that the share of new Natural Sciences instructional cost supported by Cutover should be the same as in Engineering or Environment. While they are all STEM disciplines, there are likely significant details in the distribution of activities and their costs in these units. We do not have sufficient information to evaluate these comparisons.
8. Should the College of the Environment value of redistributing 5.8% of Cutover be adopted, this is larger than can easily be implemented in two years.

Provost 3: Withhold 100% of the Cutover from all schools that produce more than 2% of UG SCH, and redistribute proportional to current undergraduate student credit hours.

Pro:

1. This model highlights the fraction of unit budgets that continue to be dependent on the original Cutover.

Con:

1. It has already been communicated to us and BODC that this was not a viable proposal due to its dramatic impact on individual units.
2. This model assumes that the entire original purpose of Cutover funds should be replaced by undergraduate SCH activity, ignoring units that are research- or clinically-focused rather than tuition-dependent, as well as legacy commitments to expensive activities outside of traditional academic-activity measures.
3. This model moves far too much money too quickly.

SSC A: Withhold *X*% of the Cutover and redistribute to support strategic reinvestment. Reinvestment decisions would be made by the Provost with the advice of the Senate Committee on Planning and Budgeting similar to the Provost Reinvestment Funds process.

Pro:

1. Withholding and redistributing a small percentage of the Cutover is a sensible approach that avoids taxing more recent growth and commitments.
2. The model builds on established processes for faculty input on budget decisions through which faculty should be given useful information for providing guidance.
3. The model does not recommend particular recipients of withheld Cutover based on information that is not accessible to the subcommittee.
4. The model clarifies that the Provost has the authority to redistribute supplement funds strategically and takes responsibility for those decisions.
5. The model allows the Provost discretion to effectively alter the fraction of Cutover withheld from each unit as opposed to imposing a uniform tax.
6. The model enables inclusion of information on differential cost of instruction, once it becomes available from the Delaware Study, to inform a strategic distribution that augments ABB formulaic funds.
7. The model can be repeated in subsequent years to continue redistributing Cutover funds towards current strategic priorities.

Con:

1. The model requires a transparent way to determine and communicate strategic reinvestment priorities to avoid being seen as a reversion to the pre-ABB “black box” incremental model.
2. The model does not exhibit a clear connection to current revenue-generating activity or unmet student demand.
3. The uniform tax rate across units does not account for ongoing commitments covered by Cutover funds nor specifically consider the financial status of the Schools and Colleges receiving a reduction in their current Cutover funds. This is mitigated by Pro bullet 5.

SSC B: Withhold *X*% of the Cutover and redistribute to each unit proportional to FY20 activity as measured by the sum of the formulaic components of ABB (Tuition + ICR).

Pro:

1. Withholding and redistributing a small percentage of the Cutover is a sensible approach that avoids taxing more recent growth and commitments.
2. The formulaic redistribution of funds is simple to implement and need not be justified by per-unit exceptionalism.
3. This model bases redistribution on both primary sources of activity-based income: instruction and research. This equalizes its impact on units with disparate distributions between the two income sources and recognizes that Cutover initially supported both instruction and research.
4. This model accelerates the initial intention that, over time, the fraction of unit budgets from formulaic income would increase while that from the constant-dollar Cutover would decrease.
5. Each unit will receive some fraction of the withheld Cutover back as income, so that no units will experience the full X% budget decrease; the incentives to increase a unit's share of Cutover parallel those that increase ABB revenue.
6. The model focuses on current revenue generating activity, and not on the historical (and difficult to document) relationship between FY12 activity and Cutover.
7. The model can be repeated in subsequent years to continue redistributing Cutover funds towards current revenue-generating activities.

Con:

1. As a purely formulaic redistribution, this model does not provide discretionary reinvestment funds.
2. The model does not incorporate the inherent distribution of differential costs of instruction or the need for institutional cross-subsidization.
3. The model co-mingles education (tuition-based) and research (ICR) funding, which reduces clarity in budget modeling.
4. An increase in the fraction of revenue distributed formulaically may counteract or exacerbate changes in tuition or ICR taxation rates, and is thus the purview of the Steering Committee.

SSC C: Withhold *X*% of the Cutover and redistribute a fraction *f* according to model SSC A and a fraction (1–*f)* according to SSC B.

Pro:

1. This model avoids the extremes of models SSC A and SSC B while maintaining all 12 of the distinct positive aspects of these models.
2. The ratio of strategic to formulaic investments can be set to balance flexibility with predictability.

3. This model provides a way to combine any potential changes in taxation formulae for tuition and ICR with increased strategic investment into a single change to the current ABB distributions.

Con:

1. This model requires a process to choose the appropriate fraction *f*, the ratio of strategic to formulaic investments, and the appropriate value of *X*, the percentage of Cutover to be redistributed in a given year.
2. The model requires a transparent way to determine and communicate strategic reinvestment priorities to avoid being seen as a reversion to the pre-ABB "black box" incremental model.
3. The model co-mingles education (tuition-based) and research (ICR) funding, which reduces clarity in budget modeling.

Summary and General Outlook

Given recent budget stresses, all units would benefit from a small increase in their Supplement funds, and all units would be negatively impacted by a decrease. The large variance among units both in total budgets and in the fraction of those budgets funded by Cutover (Table 1) means the impact of redistributing the Cutover will vary among individual units. Nevertheless, the most reasonable source of funds for strategic redistribution is the Cutover portion of the Supplement. Other potential sources of funds for redistribution more closely follow current activity (tuition and ICR) and recent strategic and budgetary decisions (New Supplement). Cutover funds, though also the product of strategic and budgetary decisions, were not intended to be permanent and are generally agreed to be subject to redistribution at the Provost's discretion. Care should be taken to ensure that the net benefits to the university due to Cutover redistribution outweigh the negative impacts. In particular, the total changes to any unit budget, whether from Cutover redistribution, taxation rate changes or central fee assessments, should be kept below 3 percent effected over a two-year period, a level which would enable units to plan and make sustainable changes.

It is important to develop a general mechanism for investment in initiatives and maintaining excellence in areas that do not directly generate enough revenue to sustain themselves, while also directing sufficient funds to support current revenue-producing activities. A long-term, workable model will be nimble over time and not a technical solution to a current, specific problem. This subcommittee does not have enough information about internal budget decisions in Arts and Sciences to make specific recommendations on the appropriate redistribution of funds towards the Division of Natural Sciences. In addition, the subcommittee recognizes that it does not have uniform representation across different units, and believes there are likely other units in need of reinvestments of which we are unaware. We look forward to the results of the Delaware Study, which will give UW disaggregated information on instructional costs and their comparison with peer institutions. In the meanwhile, Cutover is a reasonable source to increase support for a combination of current revenue-generating activity,

strategic investment in areas that are ripe for growth, and cross-subsidization of units with declining revenues that are vital to the university's mission, Any provost-initiated investments should be pursued in consultation with the Senate Committee on Planning and Budgeting.

Appendix 1. Supplement Overview

Funding Sources and Scope: Academic units on the UW Seattle Campus receive their core GOF/DOF funding from three primary sources: tuition and fees, indirect cost return from sponsored research, and what is generally referred to as "Supplement," which contains both tuition and state monies. This report addresses the Supplement component, while two other ABB Phase III Subcommittees are addressing tuition and research (indirect cost return) funding, including the formulas that control their distribution to units. For simplicity, the category "Tuition" is used below for the sum of the ABB categories (i) academic year tuition, (ii) summer quarter and (iii) miscellaneous fees. This report focuses on Seattle Academic Units, since UW Bothell and UW Tacoma have their own mechanisms for revenue distribution. There was no representation from the Bothell or Tacoma campuses on the Supplement Subcommittee (SSC).

Supplement Components: What is commonly referred to as "Supplement" has several components. Initially, Supplement funding consisted of 2012 "Cutover" monies (previously referred to as "Hold Harmless") that prevented large changes in budgets during the switch from incremental budgeting to activity-based budgeting (ABB). Cutover allocations were 25% of the total GOF/DOF budget in academic units for 2012 and ranged from negative 7% of the total budget in Arts and Sciences (A&S) to +60% of the total budget in Dentistry. Since that time, additional funding has been allocated within the category "Supplement," including legislative provisos to specific schools and colleges, tuition backfill when the state decreased tuition, compensation/benefits backfill when the state changed its fund-split, funding that followed administrative reorganizations from one college to another, "in-year adjustments" that that followed administrative reorganizations between central and unit control, and central strategic investments commonly known as provost reinvestment funds. These additions, or "New" Supplement, total slightly more than the original Cutover, about $140 M in FY20. Together, the total Supplement (New plus Cutover) is just over one third of the total FY20 GOF/DOF budget distributed to Seattle academic units ($756 M). Only A&S (-5%), Business (6%) and Built Environments (7%) receive less than 15% of their budget from the Cutover; Nursing and Dentistry receive over 40% of their budgets from Cutover. An overview of the FY20 GOF/DOF budget and its source breakdown for the Seattle academic units is in Figure 1 and Table 1.

Tuition history: When the transition from incremental to activity-based budgeting was implemented, tuition was growing at double digit rates (undergraduate resident tuition increased 21.5% in 2011, 17.1% in 2012), primarily to offset reduced state funding. The state responded to these increases by instituting limits on tuition-setting ability that resulted in tuition being frozen in 2013, decreased in 2015 and 2016, and now having a cap that limits growth to an inflation index that has been below 3% for the past four years and is expected to remain so for the foreseeable future. The current sum of Cutover plus Provost Reinvestment Funds ("Central Investments" in Fig. 1) remains about 25% of total tuition income in FY20.

Cutover history: The Cutover distribution among the diverse academic units is the result of multiple budgetary decisions over the decades preceding the advent of ABB in 2012 that

resulted in most unit budgets exceeding the revenue generated by 70% of tuition dollars and 30% of sponsored research indirect cost returns (ICR). These budgetary decisions included historical provost budget decisions and funding allocations to, for example, support program expansions, recognize different needs and cost differentials among Schools and Colleges, and operate general facilities, as well as state legislative allocations.

Cross-subsidization: The Cutover is a major component of the cross-subsidization among academic units that is essential to a comprehensive world-class university. This cross-subsidization enables engineering students to take art, business students to take calculus, geography students to take climate science, and everyone to benefit from scholarly research and societal engagement across the University. Each academic unit has a unique mix of instructional, research, and service activities leading to unique budgetary situations. For example, each unit has a different mix of upper division laboratories and graduate research supervision relative to large introductory lectures, a different distribution of classroom vs. practicum teaching loads per faculty member, as well as a different balance of ladder vs. non-ladder faculty. There are also discipline-dependent requirements for capital investments associated with new faculty hires ("start-up" funds) or instructional facilities.

Historical budget responsibilities: Besides instructional cross-subsidization, the Cutover also encompasses support for resources that benefit the entire university but are historically managed by a particular unit. Examples include the Hall Health Pharmacy, located in the School of Pharmacy, and the Arboretum, located in the College of the Environment. There are also unit allocations resulting from legislative provisos prior to 2012, for example support for South Lake Union facilities in the School of Medicine.[*] It is not possible to identify all the differential costs and activities that led to the initial distribution of the Cutover. However, the concept that about a quarter of tuition revenue should be distributed non-formulaically is not unreasonable. The issue before us is how that distribution should be determined.

Changes since ABB Implementation: Several factors drive the redistribution of costs and activities over time: growth/decline of revenue generating activities, growth/decline of activities that support revenue generating activities, and creation/rescaling/retirement of activities that are not directly related to revenue. The formulaic portion of ABB (tuition + ICR) follows the growth or decline in revenue generating activities. However, instructional growth may require prior investment in "start-up" packages for new faculty, and decline in student

[*] The School of Medicine (SoM) outlined $13.6M (35% of Cutover) in state allocations which the SoM tracks and uses exclusively per the state legislative intent and includes facilities support for South Lake Union and Harborview Research and Training building (the SoM is responsible to fund debt service and operations and maintenance for these buildings), residency program support (Non-tuition based program) which includes state funding for the Family Medicine Residency Network (FMRN) which are funds distributed to programs across the state of Washington per legislative direction (not used by SoM). The State has expanded the funding to the FMRN since 2012 due to physician shortages in state of Washington, which also demonstrates historical allocations are not all 100% fungible. The SoM did request these allocations be excluded from any re-allocation of the supplement calculations and that other schools have the opportunity to identify similar historical allocations for non-tuition based activities.

credit hours (SCH) does not eliminate the need to teach key classes (which may be smaller) or to support tenured faculty in those disciplines. Even in programs that remain a constant size, ongoing costs of instruction and research, as well as supports such as student services and technical infrastructure, do not necessarily equal the ABB formula. Increasing the fraction of revenue that follows growth in revenue-generating activities clearly helps those areas grow, but it does not establish a pool for strategic investment in new activities or for supporting areas that have seen a decline in revenue.

Appendix 2. Model Details

Provost 1

Model Provost 1 relates the calculated base at cutover to SCH, student FTE, and major enrollments to establish a "per student share" of funding. Then, these "per student shares" are multiplied by the corresponding change in activity for the Natural Sciences Division in the College of Arts and Sciences to generate a "new supplement" for the College of Arts and Sciences. With this model, we would need to tax other units at a rate of 1.9% to generate this dollar amount.

$$"New\ Supplement"_{Nat.Sciences} = \frac{Supplement_{all12}}{Activity_{all,19}} * (Activity_{Nat\ Sciences19} - Activity_{Nat\ Sciences12})$$

	SCH	FTE	Major Enrollments[†]
Total Calculated Base at Cutover	$125,058,323	$125,058,323	$125,058,323
Total Activity (FY2019)	1,273,754	28,351	32,981
True Supplement (hold harmless) per student as of FY2019	$98	$4,411	$3,792
Increase in the Natural Sciences since ABB cutover	24,484	543	(-460)
"New supplement" for A&S	$2,403,861	2,395,252	$(1,744,241)
Total Hold Harmless supplement	$125,058,323	$125,058,323	$125,058,323
% tax to get "new supplement"	1.92%	1.92%	(n/a)

The logic used in Model 1 suggests that the ABB and the supplement acted relatively "rationally" since implementation, and the funding disparity between the College of Arts and Sciences Natural Sciences Division and other colleges could be resolved through a small (<2%) tax on the other units to generate the almost $2.2M required to fund growth in Natural Sciences at the average rate across the University.

[†] Although student credit hours and full-time enrollments have increased, major enrollments for Natural Sciences have actually declined since the inception of ABB (in 2012), partially due to departments instituting prerequisite criteria that reduce the number of years students spend as a major.

Provost 2

Model Provost 2 functions in the same way as Provost 1, but accounts for variation between the College of Arts and Sciences and the College of Engineering and the College of the Environment in terms of relative tuition revenue growth by applying these units' "per student share" to Arts and Sciences' enrollment growth in Natural Sciences.

$$"New\ Supplement"_{Dept./College} = \frac{Supplement}{Activity_{19}} * (Activity_{Dept./College19} - Activity_{Dept./College12})$$

	SCH	FTE	Major Enrollments‡
1. College of the Environment Calculated Base at Cutover (FY2019)	$ 18,045,120	$ 18,045,120	$ 18,045,120
2. College of the Environment Activity (FY2019)	67,534	1,504	1,153
3. Estimate the New Calculated Base at Cutover per Environment student as of FY2019	$ 267	$ 11,995	$ 15,651
4. Estimate the increase in the number of natural sciences majors since ABB was created	24,484	543	(-460)
5. Compute a new supplement for A&S that is the product of #3 and #4	$ 6,542,183	$ 6,513,417	$ (7,199,267)
Total Calculated Base at Cutover	*$ 125,058,323*	*$125,058,323*	*$ 125,058,323*
% Set Aside to get #5	5.2%	5.2%	(n/a)
1. College of the Engineering Calculated Base at Cutover (FY2019)	$ 20,111,569	$ 20,111,569	$ 20,111,569
2. College of the Engineering Activity (FY2019)	146,136	3,262	5,170
3. Estimate the New Calculated Base at Cutover per Engineering student as of FY2019	$ 138	$ 6,165	$ 3,890
4. Estimate the increase in the number of natural sciences majors since ABB was created	24,484	543	(-460)
Compute a new supplement for A&S that is the product of #3 and #4	$ 3,369,544	$ 3,347,818	$ (1,789,424)
Total Calculated Base at Cutover	*$ 125,058,323*	*$ 125,058,323*	*$ 125,058,323*
% Set Aside to get #5	2.7%	2.7%	(n/a)

‡ Although student credit hours and full-time enrollments have increased, major enrollments for Natural Sciences have declined since the inception of ABB (in 2012), partially due to departments instituting prerequisite criteria for major declaration.

The logic used in Model 2 suggests that the ABB and the supplement acted relatively "rationally" since implementation, and the funding disparity between the College of Arts and Sciences Natural Sciences Division and the College of Engineering could be resolved through a small (3-6%) tax on the other units to fund growth in Natural Sciences at the same rate as Engineering or the College of the Environment.

Provost 3

Model Provost 3 divides the total Cutover by the total FY19 UG-SCH across each unit with more than 2% share of SCH in the undergraduate tuition bracket. Then, this "per SCH share" is multiplied by the UG-SCH of each unit to generate a "new supplement" for each unit. Finally, we calculate the difference between the sum of this "new supplement" + FY19 tuition revenue and the supplement at cutover + FY19 tuition revenue.

$$\Delta = \left(\left(\frac{\Sigma Supplement}{\Sigma SCH_{19}} * SCH_{19}\right) + Tuition_{19}\right) - (Tuition_{19} + Supplement)$$

School/ College	College of Arts & Sciences	Foster School of Business	College of Built Envir.	The Info. School	College of Educ.	School of Public Health	College of Engr.	College of the Envir.	School of Medicine
Baseline Supplement at Cutover	$(11.4M)	$2.2M	$1.0M	$1.8M	$4.8M	$5.6M	$20.1M	$18.0M	$38.9M
FY19 SCH	784154	76359	29962	31851	32387	34640	146136	67534	34829
Supplement funding level/SCH	$70.1M	$6.8M	$2.7M	$2.8M	$2.9M	$3.1M	$13.1M	$6.0M	$3.1M
FY19 Actuals	$189.7M	$26.0M	$11.6M	$7.6M	$11.8M	$13.5M	$45.80	$18.0M	$31.5M
Tuition + cutover	$178.3M	$28.3M	$12.6M	$9.4M	$16.6M	$19.2M	$65.0M	$36.1M	$70.4M
Tuition + supplement funding/SCH	$259.8M	$32.9M	$14.3M	$10,4M	$14.7M	$16.60	$58.8M	$24.1M	$34.7M
Δ	$81.5M	$4.6M	$1.6M	$1.0M	$ (1.9M)	$ (2.5M)	$(7.0M)	$ (12.0M)	$ (35.7M)
% change	46%	16%	13%	11%	-11%	-13%	-11%	-33%	-51%
Per year, over 3 years	$27,154,574	$1,525,640	$543,953	$346,086	($634,976)	($842,272)	($2,348,843)	($4,002,472)	($11,916,081)
Per year, over 5 years	$16,292,745	$915,384	$326,372	$207,652	($380,986)	($505,363)	($1,409,306)	($2,401,483)	($7,149,648)

The logic used in Model 3 mirrors Model 2, but allows us to make comparisons beyond just the Natural Sciences Division/College of Engineering; Model 3 provides a point for comparison across each unit with more than 2% of SCH[§] in the undergraduate tuition bracket. Based on the logic employed in this model, the units being "shorted" by the combination of ABB and Cutover are the College of Arts and Sciences, the Foster School of Business, the College of Built Environments, and the Information School; the inclusion of The Information School in this group may seem counterintuitive based on the hypothesis that schools who respond to the ABB's model incentive structure consume vital tuition revenue from Arts and Science.

[§] Refer to Figure 2 (green bar) for information on *all* units (regardless of SCH share)

SSC A

Model SSC A withholds X% of the Cutover and redistributes it to support strategic reinvestment. Reinvestment decisions would be made by the Provost with the advice of the Senate Committee on Planning and Budgeting (SCPB) similar to the existing Provost Reinvestment Funds process.

> **Example:** 2% of the (positive) Cutover would yield $2,501,166 available for Provost Reinvestment Funds; If A&S is included, the total is $2,274,007.

Seattle Academic Units	Original Calculated Base at Cutover	Base Reduction	Current FY20 Total GOF DOF Budget	Proposed New FY20 Total GOF/DOF Budget	Difference	% Diff.
Medicine (Includes 303)	$38,862,097	$777,242	$172,692,618	$171,915,376	-$777,242	-0.5%
Environment	$18,045,120	$360,902	$47,827,681	$47,466,779	-$360,902	-0.8%
Dentistry	$9,342,403	$186,848	$20,181,238	$19,994,390	-$186,848	-0.9%
Engineering	$20,111,569	$402,231	$108,478,540	$108,076,308	-$402,231	-0.4%
Nursing	$5,424,841	$108,497	$13,138,944	$13,030,448	-$108,497	-0.8%
UG Acad Affairs	$4,485,804	$89,716	$8,663,867	$8,574,151	-$89,716	-1.0%
Grad School	$2,719,036	$54,381	$13,745,357	$13,690,976	-$54,381	-0.4%
Education	$4,800,424	$96,008	$19,806,642	$19,710,633	-$96,008	-0.5%
Social Work	$2,995,541	$59,911	$10,833,345	$10,773,434	-$59,911	-0.6%
Law	$3,801,791	$76,036	$16,236,907	$16,160,871	-$76,036	-0.5%
Public Health	$5,623,750	$112,475	$26,225,807	$26,113,332	-$112,475	-0.4%
Pharmacy	$2,524,977	$50,500	$14,254,306	$14,203,807	-$50,500	-0.4%
Information	$1,809,318	$36,186	$10,306,351	$10,270,165	-$36,186	-0.4%
Evans School	$1,214,982	$24,300	$7,565,085	$7,540,785	-$24,300	-0.3%
Built Environ.	$1,046,856	$20,937	$14,416,741	$14,395,804	-$20,937	-0.1%
Business	$2,249,814	$44,996	$36,106,590	$36,061,593	-$44,996	-0.1%
Arts & Sciences	-$11,357,946	-$227,159	$217,153,094	$217,380,253	$227,159	0.1%

The logic used in SSC-A reflects a review and redistribution process for funds based on budgetary decisions that are on the order of a decade old (or more). Priorities that remain could receive those funds again, while those that have shifted may have their funds redeployed. Strategic reinvestment would build on the existing process already established for Provost Reinvestment Funds, including consultation with SCPB.

SSC B

Model SSC B withholds X% of the Cutover and redistributes it to each unit proportional to FY20 activity as measured by the sum of the formulaic components of ABB (Tuition + ICR).

$$\Delta_u = \left(\frac{X}{100}\right) * \left\{\left[\sum Cutover * \frac{(Formulaic\ ABB)_u}{\sum Formulaic\ ABB}\right] - (Cutover)_u\right\}$$

Where $Formulaic\ ABB = Tuition + Summer\ Quarter + Fees + ICR$

Example: 2% of the (positive) Cutover would yield redistribution of $2,501,166. The table below illustrates the impact of redistribution at the school or college level. Note the net redistribution is only about half the total due to all units receiving monies back.

Seattle Academic Units	withheld (from SSC-A table)	Total FY 20 Formulaic ABB	SSC-B Distribution	Net Δ_B	% Diff. of Total GOF/DOF
Medicine (Includes 303)	$777,242	$85,164,867	$386,879	($390,363)	-0.23%
Environment	$360,902	$23,873,462	$108,450	($252,452)	-0.53%
Dentistry	$186,848	$9,560,454	$43,430	($143,418)	-0.71%
Engineering	$402,231	$56,701,659	$257,579	($144,652)	-0.13%
Nursing	$108,497	$5,593,871	$25,411	($83,086)	-0.63%
UG Acad Affairs	$89,716	$3,349,390	$15,215	($74,501)	-0.86%
Grad School	$54,381	$4,028,650	$18,301	($36,080)	-0.26%
Education	$96,008	$13,183,585	$59,889	($36,119)	-0.18%
Social Work	$59,911	$5,978,204	$27,157	($32,754)	-0.30%
Law	$76,036	$11,451,004	$52,019	($24,017)	-0.15%
Public Health	$112,475	$20,810,445	$94,536	($17,939)	-0.07%
Pharmacy	$50,500	$10,257,414	$46,596	($3,904)	-0.03%
Information	$36,186	$7,894,516	$35,862	($324)	0.00%
Evans School	$24,300	$5,806,383	$26,377	$2,077	0.03%
Built Environ.	$20,937	$11,656,179	$52,951	$32,014	0.22%
Business	$44,996	$26,674,745	$121,176	$76,180	0.21%
Arts & Sciences	-$227,159	$198,598,958	$902,177	$1,129,336	0.52%

The logic used in SSC-B reflects that both instruction and research are supported by the current Cutover, and hence both should be included in its redistribution. ABB Tuition + ICR reflects current revenue generating activity, realigning Cutover toward the current mission.

SSC C

Model SSC C withholds *X*% of the Cutover and redistributes a fraction f according to model SSC A and $(1-f)$ according to SSC B.

This model withholds from each unit $\frac{X}{2}$ times the Base Reduction in the previous two models, with $fX(\$1.25\ M)$ available for strategic reinvestment (Provost Reinvestment Funds) and each unit receiving back $\frac{(1-f)X}{2}$ times the value SSC-B Distribution to support current revenue-generating activity.

The logic used in SSC-C reflects that a combination of strategic investment and support for current revenue generating activities will enable Cutover funds to support aspects of the entirety of the University's mission.

Appendix 3. Table and Figures

Table 1. Fiscal 2020 GOF/DOF allocations to Seattle Academic Units (in millions of dollars).** Cutover refers to the initial supplement in 2012, while New Supplement includes additions to the Supplement since that time. Titles include the total. The Cutover total of $114M is the sum of $125M in positive distributions to 16 Schools and Colleges and the negative contribution from Arts and Sciences.

School	Cutover $125 M ($114 M)	ABB Tuition $411 M	ABB ICR $88	New Supp. $143 M	Total Budget $756 M	Cutover Frac. of Tot. Bud. 17%
Arts & Sciences	-11.36	190.82	7.78	29.91	217.15	-5%
Medicine	38.86	34.51	50.65	48.67	172.69	23%
Engineering	20.11	46.20	10.50	31.67	108.48	19%
Environment	18.05	18.13	5.74	5.91	47.82	38%
Business	2.25	26.64	0.03	7.18	36.10	6%
Education	4.80	11.95	1.23	1.82	19.80	24%
Information	1.81	7.62	0.27	0.60	10.30	18%
Social Work	3.00	5.21	0.77	1.86	10.84	28%
Law	3.80	11.32	0.13	0.98	16.24	23%
Built Environments	1.05	11.55	0.11	1.71	14.42	7%
Evans -Public Aff.	1.21	5.59	0.21	0.54	7.56	16%
Dentistry	9.34	9.31	0.25	1.28	20.18	46%
Pharmacy	2.52	8.21	2.05	1.47	14.26	18%
Public Health	5.62	13.65	7.16	-0.21	26.23	21%
Nursing	5.42	4.73	0.86	2.12	13.13	41%
Graduate Sch.	2.72	1.90	0.04	7.00	11.65	23%
U'grad Acad. Aff.	4.49	3.30	0.04	0.83	8.66	52%

** FY20 Data from FY-2020-ABB-Allocation-Table-For-Distribution-08.01.19, Base FY20 columns; Cutover is from Supplement-Breakdown-Final (Column F).

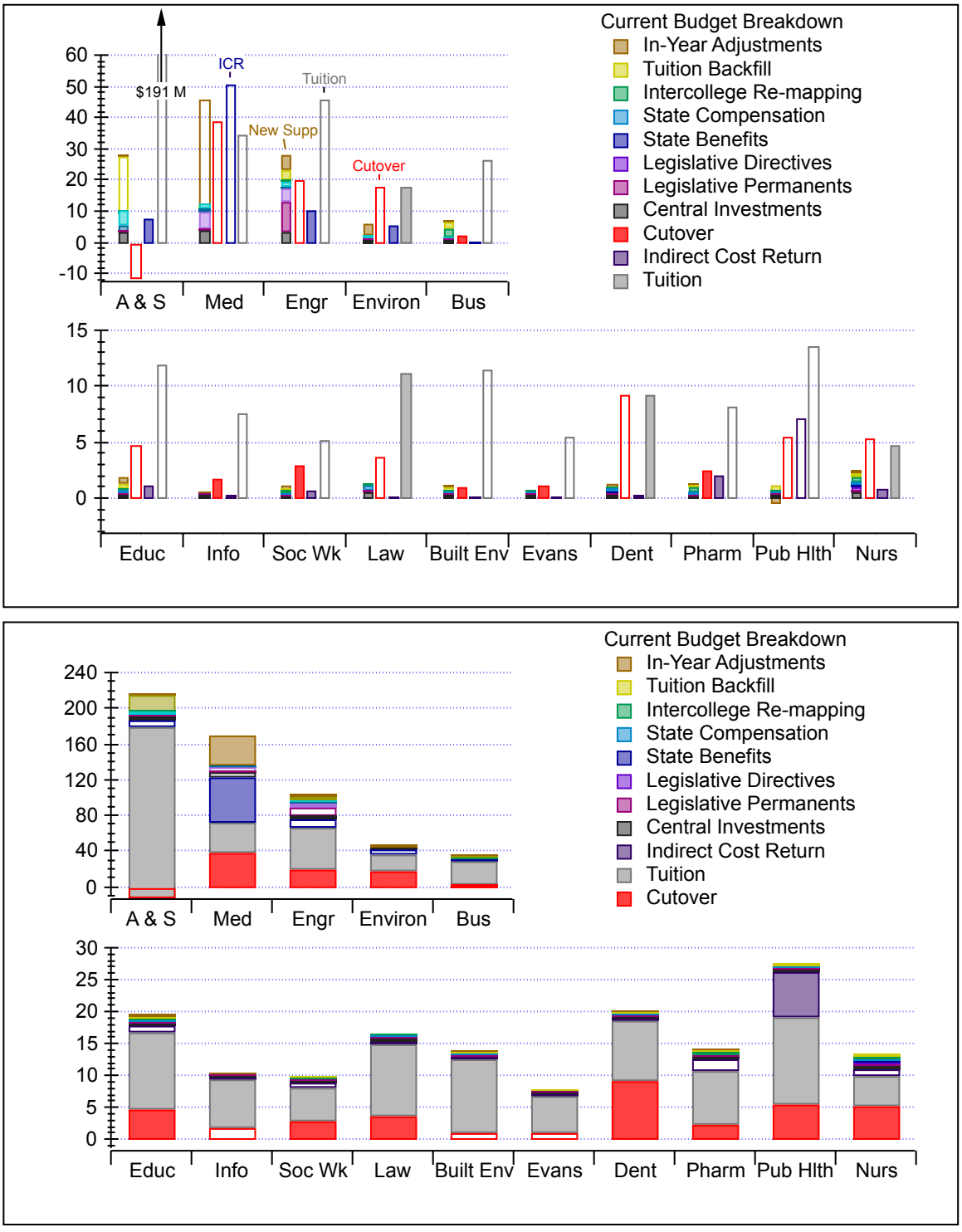


Figure 1. Graphical representation of Budget Components for Seattle Academic Units in Fiscal Year 2020. Top: Budgets separated into categories New Supplement (multicolored), Cutover Supplement (red), Indirect Cost Return (purple), and Tuition and Fees (gray). Bottom: Same information, summed to show total FY20 GOF/DOF budgets.

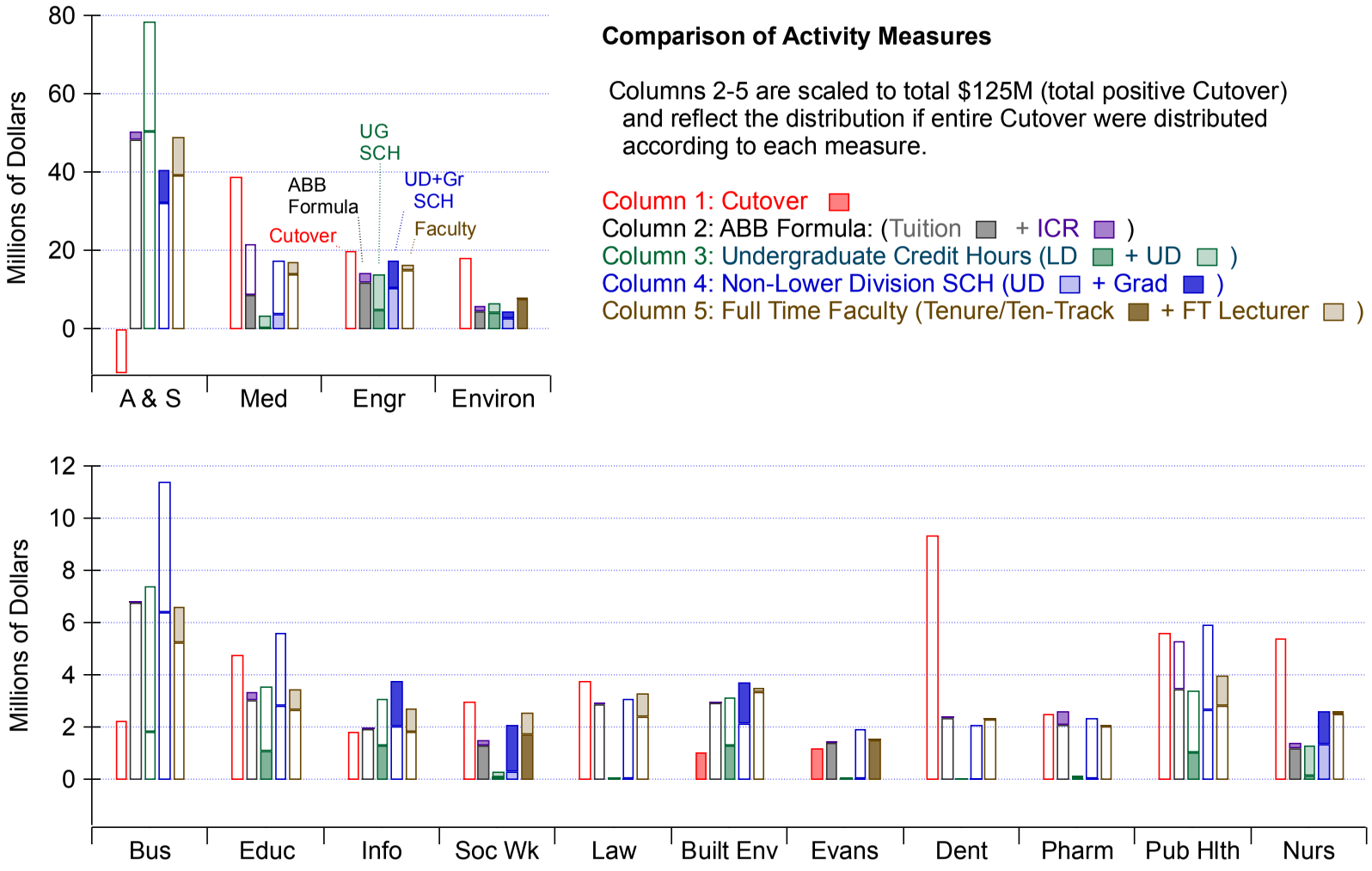


Figure 2. Various measures of activity scaled to the total (positive) Cutover. Bars represent the funds that would be distributed to various units if the entire Cutover were distributed based on the value of that measure. Green bars reflect model Provost 3. Gray/Purple bar would reflect model SSCB if X = 100.

Note: ABB Formula is FY20; SCH are AY19; Faculty are AY18 (most recent years available).