

For information
28 February 2007

**A Note on the Funding Mechanisms of UGC :
Formula, Criteria and Principles
for Allocating Funds within UGC-funded Institutions**

PURPOSE

The UGC has been asked by the Clerk to the Education Panel to prepare a paper which sets out the funding mechanism for UGC-funded institutions.

BACKGROUND

2. In 1994, the University Grants Committee (UGC) developed a new methodology for the assessment of the triennial recurrent grants, and applied it successfully for the assessment of the 1995/96 to 1997/98 triennial recurrent grants. Since then, the Committee has reviewed and improved the methodology to ensure it remains valid. The funding methodology was set out in the UGC's Report on Higher Education in Hong Kong issued in October 1996. The relevant extracts from Chapter 37 on 'Recurrent Funding' of the Report are attached at **Annex A** for reference. The full report is accessible from the UGC's website.

GENERAL PRINCIPLES

3. The UGC's funding methodology gives a reasonably rigorous and precise assessment of the resources required to meet the teaching and research targets of each institution, and includes an element of funding specifically related to performance of institutions in research. The intention is that once allocations are approved, institutions should have a high degree of freedom and responsibility for determining the best use of the resources vested in them.

4. The basis of the funding methodology is a formula. However, the UGC recognises that even the most sophisticated formula is unlikely to capture fully the subtleties of needs within a complex educational system such as that in Hong Kong. The UGC therefore takes into account many other issues, including the institutions' own requests for what we term "extra formulaic adjustments". The formula gives due consideration to the fact that UGC-funded institutions are supported

primarily to carry out teaching and research of various kinds and that there is a significant degree of interdependence between the two. The recurrent grants should therefore contain elements that relate to each of these activities which are calculated separately.

RECURRENT GRANT ASSESSMENT EXERCISE FOR THE 2005-2008 TRIENNIUM

5. For the purpose of the 2005/06 to 2007/08 triennium recurrent grant assessment exercise, the institutions submitted to the UGC in mid 2004 their student load matrices and simplified format of costed estimates based on the approved Academic Development Proposals (ADPs). The ADPs had been earlier submitted to the UGC which had had discussions with each institution on an individual basis. The UGC made reference to this information during its compilation and consideration of the recurrent funding requirements of the institutions in August 2004. The general principles of funding methodology adopted for the 2005/06 to 2007/08 triennium recurrent grant assessment exercise were basically the same as those set out in the UGC's 1996 Report on Higher Education in Hong Kong, with values of the parameters in the funding formula appropriately updated based on decisions made in the relevant UGC meetings. Detailed steps for the 2005/06 to 2007/08 triennium recurrent grant assessment exercise are listed in **Annex B** for reference.

6. Recurrent grants to each UGC-funded institution basically comprise a block grant⁽¹⁾ and funds provided for specific purposes⁽²⁾. In short, the amount of block grants to the sector as a whole comprises four elements:

- (a) Teaching – about 68%
- (b) Research – about 20%
- (c) Performance and Role Related – about 10%
- (d) Professional Activity – about 2%

Teaching Element of the Block Grant

7. The Teaching element is based on the student numbers, their levels (i.e. sub-degree, first degree, taught postgraduate and research postgraduate), mode of study (i.e. part-time, sandwich and full-time) and

⁽¹⁾ Until the 2005-08 triennium, the grants to the HKIEd were provided in the form of earmarked recurrent grant. As the HKIEd has now matured, it has been funded on a block grant basis starting from the 2005/06, on par with the other institutions.

⁽²⁾ For the 2005/06 to 2007/08 triennium, these comprise funding from the Earmarked Research Grants, Grants for Restructuring and Collaboration Activities, Grants for Research Development Activities and Central Allocation Vote.

disciplines of study. Some subjects are more expensive to teach than others because they require special equipment, laboratory or more staff time, etc. Relative cost weightings by broad academic programme categories have been grouped into three price groups with effect from the 2005/06 to 2007/08 triennium.

Research Element

8. The Research element is primarily related to the number of active research staff and the cost of research in respective fields. The number of active research staff in each cost centre was identified in the context of the Research Assessment Exercise conducted in 1999 which assessed the research performance of different institutions and different cost centres within an institution.

Performance and Role Related Element

9. This element of funding is closely related to the performance of an institution against the role it has agreed with the UGC and its performance in general. The UGC conducted a Performance and Role-related Funding Scheme (PRFS) in 2004 to inform funding allocation for UGC-funded institutions in the 2005/06 to 2007/08 triennium. The amount involved is about \$1.2 billion per annum, i.e. around 10% of the recurrent funding requirements.

Professional Activity Element

10. This element of funding is associated with professional (non-research) activities which should be undertaken by all members of academic staff. It is calculated based on the number of academic staff.

Allocation within Institutions

11. The UGC formula only serves as a basis for determining the block grant allocation to the UGC-funded institutions. Once allocations are approved, institutions have a high degree of freedom and responsibility for determining the best use of the resources vested in them.

FUNDS FOR SPECIFIC PURPOSES

12. For the 2005-08 triennium, the UGC recommended to disburse the following sums for achieving various purposes that are considered to be important to the development of the local higher education sector : -

- (i) Earmarked Research Grant
- (ii) Performance and Role-related Funding
- (iii) Teaching Development Grants
- (iv) Language Enhancement Grants
- (v) Restructuring and Collaboration Fund
- (vi) Research Development Fund
- (vii) Central Allocation Vote

(i) *Earmarked Research Grant*

13. The Earmarked Research Grant (ERG) is allocated from the UGC to the Research Grants Council (RGC) for supporting various academic research activities (mostly research projects on a competitive basis) of UGC-funded institutions, including the following –

- (a) Competitive Earmarked Research Grants (CERG) which are provided in response to competitive bids assessed by Subject Panels of the RGC, with help from specialist academic assessors or referees mostly from overseas under a vigorous peer review system.
- (b) Direct Allocation for discretionary use by institutions to support small-scale research projects costing less than \$200,000; for field trips and other travel requirements, and to provide initial funding support for junior faculty and newly recruited staff in research.
- (c) Central Allocation which is provided to strengthen the research base, support group research proposals that promote collaboration among academic institutions and synergy between research teams.
- (d) Joint Research Schemes which support researchers / research teams in Hong Kong to collaborate with their counterparts in Mainland China, France and Germany.
- (e) Clinical Research Fellowships which supports young clinicians in undertaking clinical research.
- (f) Fulbright Hong Kong Scholar Programme which supports Hong Kong scholars to undertake research work in the United States.

We allocated \$605.9 million to ERG in 2006/07 and the proposed distribution is as follows –

	<u>Distribution</u> (<u>\$m</u>)	<u>Percentage</u> (<u>%</u>)
(1) Direct Allocation	65.0	10.7
(2) Competitive ERG	490.8	81.0
(3) Central Allocation	35.0	5.8
(4) Joint Research Schemes	11.8	1.9
<i>National Natural Science</i>	<i>10.0</i>	
<i>Foundation of China/RGC</i>		
<i>Germany/HK</i>	<i>1.0</i>	
<i>France/HK</i>	<i>0.8</i>	
(5) Clinical Research Fellowship	1.2	0.2
(6) Fulbright Hong Kong Scholar Program	2.1	0.4
Total	605.9	100.0

Apart from the above, if there are any savings from the above activities, the funds will be used to fund applications for the Postgraduate Students Conference/Seminar Grants the main purpose of which is to support and promote inter-institutional and inter-disciplinary exchanges among postgraduate students, and provides opportunities for postgraduate students to meet and interact with eminent scholars from outside Hong Kong.

(ii) Performance and Role-related Funding

14. The primary purpose of the PRFS was to provide an assurance that the institutions were following their chosen roles and that they perform well in those roles. It was a formative exercise aiming at assisting institutions to reflect on their role and to find constructive ways further to improve, encourage and recognize performance according to role. The Scheme linked funding allocation, performance and performance against role more effectively than in the past. It aimed to recognize the different roles that institutions have, reward their performance accordingly, and make the Hong Kong's higher education sector internationally competitive. It was not about penalizing institutions. Rather, it represented a process by which the UGC facilitated and assisted institutions further to develop themselves.

(iii) Teaching Development Grants

15. In the 2005-08 triennium, a total of \$100.2 million in Teaching Development Grants (TDGs) is being provided to the eight UGC-funded institutions. The TDGs have been allocated to institutions since 1994/95. The main purposes of the Grant are to encourage institutions to adopt innovative approaches to teaching, improve the quality of the learning environment and underline the UGC's recognition and strong support for

teaching and learning which are central to the roles and missions of all institutions.

16. The UGC has decided that TDGs in the 2005-08 triennium should be disbursed broadly according to student numbers at undergraduate and sub-degree levels. Specifically, 30% of the block TDGs will be distributed equally among all eight institutions to ensure that every institution will be provided with a critical mass of funding necessary to carry out teaching development efforts. The remaining 70% should be distributed according to student numbers at undergraduate and sub-degree levels. The allocation broken down by institution is listed in the table at **Annex C**. Institutions will continue to be asked by the UGC to report regularly on how they have used these TDGs.

(iv) Language Enhancement Grants

17. In the 2005-08 triennium, a total of \$276.6 million in Language Enhancement Grants (LEGs) is being provided to the eight UGC-funded institutions. The purpose of the LEGs is to support institutions to organize programmes to enhance the proficiency of students in both English and Chinese languages. Such programmes come in different forms: some are offered to all students compulsorily to form a basis for more advanced learning, others are designed for specific disciplines to meet the needs of different professions. There are also courses to equip students with specific skills in writing or speaking to prepare them for their future careers, as well as workshops and summer courses to provide students with more flexible and innovative environments to brush up their language abilities.

18. The UGC has decided that LEGs in the 2005-08 triennium should be disbursed according to student numbers at undergraduate and sub-degree levels. The allocation broken down by institution is listed in the table at **Annex D**. The Institutions will continue to be asked by the UGC to report regularly on how they have used the LEGs.

(v) Restructuring and Collaboration Fund

19. The UGC actively encourages deep collaborative relationships among the UGC-funded institutions, which can help build greater synergy, create greater critical mass, lift academic and research performance, enhance management support and generate cost savings which could in turn be used for enhancing quality in the higher education sector. Noting that deep collaboration will require a significant lift in effort amongst the institutions, the UGC took the initiative to set up a Restructuring and Collaboration Fund (RCF) in 2004 to support related activities. For 2005/06 to 2007/08 triennium, the amount of funding

provisionally allocated under RCF is \$414.9 million in total.

20. The core objective of the RCF is to provide one-off assistance to institutions to support their initiatives aimed at achieving greater value for money and greater quality for money in the use of UGC funds/resources through: reorganizing activities for better focusing of resources; building strong, purposeful and cost effective collaboration with other institutions; broadening the revenue base; pursuing any innovative or entrepreneurial initiative expected to produce recurrent savings; and reengineering administrative processes.

(vi) Research Development Fund

21. Research Development Fund is mainly used for supporting research development activities, such as provision of 450 additional Research Postgraduate (RPg) marginally funded places in 2005-08 triennium and significant research projects, including Areas of Excellence (AoE) projects⁽³⁾.

22. The source of funding for both the RCF and the Research Development fund is from savings which the Administration has allowed the UGC to retain, from phasing out publicly-funded Taught Postgraduate places in general. The total amount available over the triennium is about \$1 billion and the UGC, after meeting the increase in ERG of \$200 million, has provisionally apportioned the balance between these two funds.

(vii) Central Allocation Vote

23. The Central Allocation Vote is to meet expenditure incurred for sector wide and cross-institutional activities, to meet costs of institutional advancement projects, to support new teaching and learning quality initiatives which are outside the ambit of the RGC and AoE Scheme, and to meet unforeseen funding requirements during a triennium.

⁽³⁾ AoE projects are funded by the AoE Scheme. The Scheme provides support to research projects which are recognised internationally as of equal status to their peers in the same subject areas, and justify the additional investment in staff time and resources, as well as facilities and activities, which would maintain them among the world leaders.

UGC Secretariat
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UGC's 1996 Report on Higher Education in Hong Kong – Chapter 37 on 'Recurrent Funding'

37.2 The starting point for grant allocation is, of course, the level of activity which it is proposed to fund. The UGC's current funding methodology (used for the first time in the 1995-98 triennium) is based upon two major activities: the quantity of teaching, primarily related to numbers of students; and the quantity of research, largely determined by the numbers of academic staff. The Grants Committee calculates these two elements separately, but it is very aware that there is much interaction and support between teaching and research, and that there are in reality shared costs which are imperfectly represented by the divided calculation. The UGC "formula" is, in any case, only the start of the determination of grant. There are many special factors which are not closely related to overall student or staff numbers: the provision of facilities used by the public, such as museums or galleries, or salary changes affecting limited groups of staff, are two examples.

37.3 Overall student numbers, by level, are agreed with government for each year of a triennium. The advice which the UGC gives in this respect follows detailed discussion with its institutions. It also involves arguments of the kind displayed in Chapter 30. By way of example, the numbers for 1995-98 are given in Table 37.1.

Table 37.1 Fte student numbers in UGC Institutions (1995-98)

Level	1995-96	1996-97	1997-98
Sub-degree	9,246	9,450	9,450
Undergraduate	43,490	45,119	44,446
Taught Postgraduate	4,558	4,831	5,110
Research Postgraduate	2,995	3,273	3,595
Total	60,289	62,673	62,601
FYFD	14,500	14,500	14,500

Source: UGC Secretariat

37.4 The division of these numbers into subject areas for the purposes of grant calculation is partly a matter of historical precedent, since institutions cannot readily change the subject balance of existing activities quickly, and partly it is based on expected new needs formulated by government or by the institutions themselves. The weighted student number total can be obtained by scaling students in particular disciplines and at particular levels by the factors shown in paragraphs 36.2 and 36.3. This weighted total then has to be multiplied by the annual cost of a humanities student to obtain the resource needed for teaching. The UGC has considered including within the calculation of the teaching grant a factor to encourage and reward good teaching, but there are many problems of both identification and appropriate action (see Chapter 17) and so far provision for this has been made by other means (see paragraph 29.3). The teaching component of grant T can thus be expressed as

$$T = \left[\sum_{\text{All subjects and levels}} (\text{student numbers}) \times (\text{relative unit cost}) \right] \times \text{unit cost of a humanities student}$$

where \sum is a mathematical symbol implying summation.

37.5 The non-specific recurrent grant for non-teaching activities in UGC HEIs is related to academic staff numbers. It is not, however, the Committee's expectation that all staff will be actively engaged in research. The grant is therefore divided into two components. For staff who are research-active, there is a unit cost of research which can be obtained by applying a subject-specific scaling factor to the cost of research by one active member of staff in a reference subject (say, humanities). Because the major cost of research is usually staff time, the subject scaling factors for relative unit costs do not have as wide a spread as those shown for teaching in Table 36.2. For example, taking humanities as 1.0, the relative unit cost in science or engineering is about 1.75. The grant associated with research R₁ can be expressed by a similar equation to that in the previous paragraph, as

$$R_1 = \left[\sum_{\text{All subjects and research-active staff}} (\text{research-active staff numbers}) \times (\text{relative unit cost}) \right] \times \text{unit cost of research by humanities staff member}$$

The determination of the number of members of staff who are active in research is undertaken by the UGC in a "Research Assessment Exercise" about eighteen months before the beginning of each triennium. The next one is due towards the end of 1996 and its results will be incorporated in the grant calculations for 1998-2001. The funding model which the UGC uses incorporates a factor for the quality of the research activity, but so far this further refinement has not been used.

37.6 The second component of the non-teaching grant is associated with professional (but non-research) activities which should be undertaken by all members of academic staff. It is defined by a single sum per head and is calculated as

$$R_2 = \text{total number of academic staff} \times \text{unit cost of professional activity}$$

The total non-teaching grant is $R = R_1 + R_2$

37.7 In calculating the whole freely disposable grant for which submission should be made to government, namely $T+R$, the UGC has a number of fixed parameters - student numbers by subject and level, staff numbers, research-active staff numbers by subject, relative unit costs between subjects for both teaching and research - and a number of variables - the unit cost of teaching a humanities student, the unit cost of research by a number of staff in a humanities department, and the unit cost of professional activity. The Committee's choice of values for these variables affects both the total grant and the T/R ratio - essentially the relative importance assigned to teaching and research. In practice the overall grant is decided by dialogue with government, and the choice of variables must satisfy whatever total is eventually agreed. The determination of the T/R ratio, however, is largely a matter of Committee policy after consulting both government and the institutions.

37.8 In addition to the non-selective components described by T and R , but given by government to the UGC as a single sum, the recurrent grant includes items intended for specific purposes. There are substantial sums for earmarked research grants for disbursement by the RGC. There are sums for special projects, mainly concerned with quality improvement, and there is money for additional

staff-related benefits. The UGC retains a small central reserve for new ventures and for inter-institutional initiatives and links. There may sometimes be earmarked grants of the kind described in paragraph 35.7. The make-up of the current total grant is shown in Table 37.2. For simplicity, the figures given here and in paragraph 37.11 are shown for a single year, but it should be remembered that grant is given on a triennial basis.

Table 37.2 Make-up of the Total Grant (1995-96)

	<u>HK\$m</u>
Calculated T+R	10,900
deduct fees/other income	<u>-2,400</u>
	8,500
Research projects	300
Quality improvements	100
Staff benefits	100
Central reserve	<u>100</u>
	9,100

Source: UGC Secretariat

37.9 Once the total grant has been agreed, its distribution between individual institutions is based upon calculations similar to those already described. The UGC does not assume that the costs of teaching a particular subject will be the same in all of its institutions, or even that relative unit costs will lie within the ranges shown in Table 36.2. Institutions tackle subjects in many differing ways, and the resultant cost may be substantially above or below average. What the Grants Committee does assume is that each institution will have a mixture of relatively expensive and relatively cheap courses, and that a block grant based upon average costs will in total be appropriate to its needs. How that block grant is divided is a matter for internal decision by each institution.

37.10 There has been some suggestion that formula funding may lead to a uniform mediocrity. The Grants Committee believes that this will not happen. There is ample opportunity both within the formula and outside it for higher level

activity to attract higher level resource, but the criterion will be performance, not historical expectation.

37.11 There are some small restrictions placed by the UGC on the use of the block grant. From the HK\$8,500m shown in Table 37.2, about HK\$300m was deducted, mainly to be given to the RGC for the competitive distribution of some of the research postgraduate numbers shown in Table 37.1, but also for some other small earmarked purposes. The remaining HK\$8,200m was distributed between the institutions as follows:

Table 37.3 Block Grant (1995-96)

Institution(1)	HK\$m
CityU	1,100
HKBU	500
LC	200(2)
CUHK	1,900
PolyU	1,400
HKUST	1,200
HKU	1,900
Total	8,200

Notes: (1) excluding HKIED which did not join the UGC until 1996

(2) earmarked

Source: UGC Secretariat

Lingnan College did not have a block grant in 1995-96 : all expenditure was earmarked. Within the block grant, the UGC has until recently "indicated" sums for equipment (a much weaker directive than "earmarking"), but that practice has now been discontinued.

**Detailed Steps for the Recurrent Grant Assessment Exercise
for the 2005-08 Triennium**

A. Determine the cash limit for the 2005-08 triennium

1. Bring up the total recurrent funding to current price level by applying the civil service salary adjustment rate and inflation / deflation rate to the salary and non- salary related expenditure respectively. (Salary related portion was 69.72% and non-salary related portion was 30.28% for the exercise)
2. Determine the total weighted student number for each of the three academic years under the 2005-08 triennium.
3. Determine the total assumed income. (i.e. tuition fee + other assumed income)
4. Calculate the cash limits for the three academic years (i.e. 2005/06, 2006/07 and 2007/08) based on the above adjustment factors.

B. Determine the funding amount to be applied in the funding model for allocation to institutions

1. Determine the top-slicing amounts (including the funds for central allocation, Earmarked Research Grants, Restructuring & Collaboration Fund, Research Development Fund, Teaching Development Grants, Language Enhancement Grants and Performance and Role-related Funding) to be deducted from the total funding requirement.
2. Determine the appropriate extra-formulaic adjustments to be deducted from the total funding requirement.
3. Deduct the top-slicings and the extra-formulaic adjustments from the total funding requirement to derive the funding amount to be applied in the funding model for allocation to institutions.

C. Funding Model Operation

1. Calculation of the funding amounts of individual institutions (bottom up approach)

Determine the funding amounts by two major activities of the institutions - the quantity of teaching = Teaching (T) Fund (75%) (mainly related to number of students) and the quantity of research = Research (R) Fund (23%)

+ Professional Activities (PA) Fund (2%) (related to the number of academic staff).

The resources to support these funds can be expressed as follows:-

T Fund = [\sum (student numbers) x (relative unit cost)] x unit cost of a full-time first degree student
All subjects and levels of business academic programme category

R Fund = [\sum (academic staff numbers) x (research indices) x (relative unit cost)] x unit cost of
All departments and academic staff research in humanities subject per staff member

PA Fund = [\sum (academic staff numbers) x (relative unit cost of PA)] x unit cost of other professional
All departments and academic staff activities in humanities subject per staff member

2. Determination of unit cost for T, R and PA Fund

T unit cost is based on the historical cost of Academic Programme Category (APC) Number 10 – Business Management (i.e. the latest unit cost for teaching a business discipline undergraduate student, this cost can be obtained from a report generated from the Funding Model), adjusted to the current price level.

R unit cost is based on the historical cost of Research Cost Centre (CC) Number 51 – Other Arts / Humanities of the latest Common Data Collection Format data collected from institutions (i.e. the latest unit cost for research for the humanities department, this cost can be obtained from a report generated from the Funding Model), adjusted to the current price level.

PA unit cost is usually assumed to be a fraction of the standard unit cost of research. R/PA = 10 is assumed in the 2005-08 triennium.

3. Allocation of the available funds (top down approach)

This step allocates the funds available with reference to the results of the bottom-up approach and the UGC's advice regarding the appropriate split of resources among the teaching, research and other professional activities.

D. Assessment of Net Recurrent Grants for individual institutions

1. Allocate the funding amounts to institutions based on the results generated from the Funding Model.

2. Add the top-slicing amounts which are not centrally held and the calculated extra-formulaic adjustments into yearly funding amount for the respective institutions as appropriate.
 3. Deduct the assumed income (including tuition fee and other assumed income) for individual institutions to determine the Net Recurrent Grant for individual institutions.
- E. Determine the total Net Recurrent Grant (i.e. total cash limit as determined in point A)**

Add the centrally held provisions to the total net recurrent grants allocated to individual institutions.

**Distribution of Teaching Development Grants
in the 2005-08 Triennium**

Institution	2005-08 Triennium (HK\$m)	
	TDGs	%
CityU	15.7	15.67%
HKBU	9.1	9.08%
LU	6.5	6.49%
CUHK	15.7	15.67%
HKIEd	9.2	9.18%
PolyU	18.3	18.26%
HKUST	10.7	10.68%
HKU	15.0	14.97%
Total:	100.2	100%

**Distribution of Language Enhancement Grants
in the 2005-08 Triennium**

Institution	2005-08 Triennium (HK\$m)	
	LEGs	%
CityU	47.3	17.10%
HKBU	21.0	7.59%
LU	11.0	3.98%
CUHK	47.3	17.10%
HKIEd	21.3	7.70%
PolyU	57.3	20.72%
HKUST	27.1	9.80%
HKU	44.3	16.01%
Total:	276.6	100%

**Recurrent funding for
UGC-funded institutions in the 2005/06 to 2007/08 triennium**

	Academic year (July to June)			Total
	2005/06 (in \$million)	2006/07	2007/08	
(a) City University of Hong Kong	1,294.7	1,189.1	1,141.6	3,625.4
(b) Hong Kong Baptist University	555.9	557.9	558.0	1,671.8
(c) Lingnan University	196.7	203.6	203.8	604.1
(d) The Chinese University of Hong Kong	2,178.0	2,145.2	2,144.7	6,467.9
(e) The Hong Kong Institute of Education	536.1	504.2	445.5	1,485.8
(f) The Hong Kong Polytechnic University	1,648.8	1,595.6	1,559.3	4,803.7
(g) The Hong Kong University of Science and Technology	1,218.8	1,207.1	1,189.9	3,615.8
(h) The University of Hong Kong	2,144.9	2,059.8	2,030.0	6,234.7
Sub-total of Recurrent Grants for eight institutions	9,773.9	9,462.5	9,272.8	28,509.2
Earmarked Research Grants	505.9	605.9	605.9	1,717.7
Grants for Restructuring and Collaboration Activities	123.6	132.5	158.8	414.9
Grants for Research Development Activities	123.6	132.5	158.8	414.9
Central Allocation Vote	10.0	100.0	100.0	210.0
Total Recurrent Grants to the UGC-funded institutions	<u>10,537.0</u>	<u>10,433.4</u>	<u>10,296.3</u>	<u>31,266.7</u>