

第 6 卷第 3 期 2013 年 8 月

Vol. 6, No. 3, August, 2013

国际高等教育

德国的“卓越计划”：建设世界一流大学.....	83
芬兰的大学：追求研究卓越.....	86
挪威：卓越研究中心.....	90
俄罗斯顶尖大学：从“教学卓越”到“研究卓越”	94
欧盟“2020 地平线计划”：向世界开放一流的研究基础设施.....	97
Building World-Class Universities: Excellence Initiative in Germany.....	101
Pursuing Research Excellence in Finnish Universities	105
Centres of Excellence in Research: Norwegian Experiences.....	109
Leading Universities in Russia: From teaChing to Research Excellence.....	113
EU's Horizon 2020 Plans to Open up	
World-Class Research Infrastructures to the World	117

德国的“卓越计划”：建设世界一流大学

朱佳妮

上海交通大学高等教育研究员助理教授

电子邮箱: zhujianni@sjtu.edu.cn

“辉煌历史” vs. “表现平庸”

德国最古老的大学可以追溯到中世纪，如建于1379年的埃尔福特大学（the University of Erfurt）、建于1386年的海德堡大学（Heidelberg University）、建于1388年的科隆大学（the University of Cologne）。19世纪末，德国超越英国和法国，一举成为世界科学的中心，物理、数学、化学和工程等许多科研领域都聚集了最杰出的研究人员。大量年轻人不远万里赴德国追求最高深的知识。

然而，今天当人们谈及哪所大学声望最高时，在哈佛（Harvard）、斯坦福（Stanford）、牛津（Oxford）或剑桥（Cambridge）等一列“大名鼎鼎”的院校中，可能很难会立刻想起德国的任何一所大学。德国的大学在全球排名上的表现似乎也佐证了这个现象，例如其在“世界大学学术排名”（Academic Ranking of World Universities）、“QS世界大学排名”（QS World University Rankings）和“泰晤士高等教育世界大学排名”（Times Higher Education World University Rankings）这三个最有影响力、最受关注的国际大学排名中的表现并不出众。尽管三个排名指标各异，但它们呈现了相似的结果。换句话说，与英美两国的兄弟院校相比，几乎没有几所德国的大学能够在世界大学排名中跻身百强。在过去的五年中，德国大学获得的最高名次是

2010年“泰晤士高等教育世界大学排名”中的第43名，而在整个百强名单中仅占六席。

“坚持平等” vs. “追求卓越”

与盎格鲁—撒克逊（Anglo-Saxon）模式不同，德国没有类似“常春藤”的概念。德国和欧洲许多国家的体制一样，所有的大学都遵循同等的教育质量的原则。因此，德国的大学之间历来仅有建校历史或规模大小的差异，不存在重点和非重点之分。同时，德国实行联邦制，几乎所有的大学都是公立的，学校财政收入主要来源于税收。因此，理论上说，这些大学是平均主义的，即所有的大学地位平等，因此应该被平等对待。然而，由于缺乏竞争，这种等量拨款的平均主义体制不能激励大学的雄心壮志，也不能让它们努力在激烈的竞争中脱颖而出成为最具有竞争力的大学。其导致的结果之一是，德国的大学要么缺乏额外的财政资源，要么没有足够的动力追求卓越。此外，由于上述历史原因，任何追求卓越的意图或者只资助精英大学的方式都常常被视为禁忌。鉴于此，前教育和研究部长埃德尔加德·布尔曼（Edelgard Bulmahn）在首次提出该计划的时候，曾引发了德国科学界和政治界的激烈辩论。

“卓越计划”：重构德国高等教育版图

在这一背景下，德国于2005年启动了“卓越计划”（Excellence Initiative）第一期，目的是发展德国大学的卓越成就和加强科学

界的前沿研究,让德国成为一个更有吸引力的研究大国。通过实施该计划,德国希望其大学继续成为世界研究的“灯塔”,在全球竞技场上成为斯坦福、牛津那样有竞争力的大学。因此,这一竞争性计划的目的是打破平均主义的体制,并让大学拉开差距:只有在国际竞争中具备最强研究潜力的大学,才能获得支持。

组织和遴选 至今,“卓越计划”开展了两期,共三轮。第一期是2005~2012年(第一轮和第二轮),第二期是2012~2017年(第三轮)。遴选由德国研究基金会(German Research Foundation)和德国科学和人文委员会(The German Council of Science and Humanities)主持。遴选过程分初期和末期。初期各个大学需提交建议草案,之后由国际专家组成的委员会将对其进行评估。根据德国研究基金会的规定,委员会由约300名专家组成,其中60%都来自其他欧洲国家,30%来自非欧洲国家,剩下的10%为德国专家。

在第一轮遴选中,三分之二的德国国立大学提交了草案,其中22所大学获得资助(包括三个资助方面)。在第二轮中,82%的德国大学提交了草案,其中28所获得了竞争性拨款。在第三轮中,41%的国立大学(111所中的46所)参与其中,39所得到了资助。该计划四分之三的经费都由联邦政府投入,剩下四分之一则来自联邦各州的资助。三轮资助总额约53亿欧元,其中第一轮19亿欧元,第二轮10亿欧元,第三轮24亿美元。

资助内容 “卓越计划”的资助内容分三块:“研究生培养机构”计划、“研究组群”计划和“精英大学”计划。“研究生培养机构”计划旨在提升年轻科研人员的实力,培养杰出的博士生。德国的博士教育传统上一直遵循“学徒模式”(Master-Apprentice Model),

强调学生和导师之间的个人关系(德语称之为Doktorvater/Doktormutter)。然而这种高度个性化的模式因为辍学率高、培养期长、指导质量不稳定等原因而饱受批评。对研究生院进行投入的目的在于为博士研究生提供良好的科研环境。此外,在受资助的研究生院中,博士候选人可以聚在一起,就同一个跨学科研究课题开展工作。总之,在研究生院中,博士研究生能够获得各项技能,这有利于他们拓展人际关系、提升专业能力、促进职业发展。目前,德国研究基金会支持了45所“研究生院”的运行。

“研究组群”计划聚焦于提升大学的研究潜力,扩大了德国相关大学的科研网络和合作,例如大学、非大学的研究机构和工业界之间的科研合作。该计划的目的是建立国际知名的、有竞争力的研究和教学设施。目前受到资助的“卓越集群”共43个。以德累斯顿高级电子研究中心(Centre for Advancing Electronics Dresden)为例,该集群在五年资助期间获得了约3400万欧元的资助。目前,来自德累斯顿技术大学(Dresden University of Technology)和其它10个合作机构(包括马克斯·普朗克学会[Max Planck Society]、弗劳恩霍夫协会[Fraunhofer Association]、莱布尼兹协会[Leibniz Association]、赫姆霍兹协会[Helmholtz Association]和开姆尼斯技术大学[Chemnitz University of Technology])的57位科学家一起在该中心工作。

为了符合获得第三块资助内容的资格,要求各个大学至少拥有一个“研究生院”和一个“卓越集群”。与上述两个资助方面不同,“精英大学”旨在促进德国顶级大学拓展各自强势学科的国际竞争力,并最终奠定自身在国际竞争中的优势。例如,慕尼黑技术大学(Technical University Munich)的“精英大

学”计划是“创业型大学”，面向21世纪的能源、气候变化和环境的重要挑战，寻求超越边界的创业路径。海德堡大学（Heidelberg University）提出“发挥综合性大学的潜力”，强调跨领域对话的重要性。在第三轮中，有12所大学被授予了“精英大学”的头衔。

效果和批评

“卓越计划”提升了德国大学的国际研究声誉。尽管德国的大学在大学排名中还停留在原地，即只有若干所大学成功跻身前100名，但是“卓越计划”还是在很大程度上达成了原来的目的。“卓越计划”的第一轮开始后不久，学术界就注意到该计划，因为它提升了德国科学和研究面对国际竞争者的知名度。此外，“卓越计划”一直在吸引世界各地的人才，因为“精英大学”对国际学者越来越有影响力。根据洪堡基金会（Alexander-von-Humboldt Foundation）的统计，2005~2009年赴德国进行研究访问的外国研究人员数量增加了三分之一，特别是化学/药学、生物和物理等前沿研究领域。同时，具有卓越研究绩效的国际学者也被吸引到精英大学：在10所接受“洪堡学者”最多的大学中，有八所为精英大学。

“卓越计划”已经为德国大学注入了研究活力。尽管非大学的研究设施（例如马克斯·普朗克学会、赫姆霍兹协会、弗劳恩霍夫协会和莱布尼兹协会）一直在德国的研究和创新中扮演决定性角色，大学在开展研究方面仍然有自身的优势。例如，它们是唯一覆盖许多研究课题跨学科特点的机构。此外，大学还培育青年研究人员。通过开展卓越计划，德国已经明确展示了自己在推进大学研究上的决心，以及在加快大学和非大学机构

之间研究合作的渴望。

“卓越计划”已经在德国大学中形成了竞争文化。毫无疑问，“卓越计划”不坚持平等，而是资助“精英”。这就催生了德国大学中的竞争文化。此外，这一计划还激发了德国学术界新的活力，因为许多大学已经开始重新思考大学战略和研究绩效，展示大学形象的独特性和强大的竞争力，这全部都是德国高等教育版图上史无前例的。此外，自从“精英大学”的头衔不再为终身制，各个大学也不得不保持竞争力以维持该荣誉。例如，在第三轮遴选中，卡尔斯鲁厄技术研究所（Karlsruhe Institute of Technology）、哥廷根大学（University of Goettingen）和弗莱堡大学（University of Freiburg）就丢掉了精英大学的头衔。此外，2016年将有一个由国际专家组成的外部委员会评估该计划及其对德国高等教育体制的影响。

针对“卓越计划”的批评主要来自两方面。其一，是否无视公平和均衡。位于前德意志联邦共和国的大学主导了三轮精英大学的遴选。事实上，在前两轮中，没有一所位于前德意志民主共和国的大学被选中；只有在第三轮中，“精英大学”计划的11所获资助大学中，有两所来自前德意志民主共和国。其二，是否忽略了教书育人。在精英大学庆祝胜利的同时，许多人开始担心这些大学的教学：“卓越计划”主要是为了促进卓越研究而不是人才培养。由于大学希望教授们参与研究，教授们在教学上投入的时间很可能会减少，因此会导致教授减少为学生授课的机会。除了以上批评之外，“卓越计划”在追求研究卓越上是一个开创性的计划，并已经在很大程度上改变了德国的科研版图。

芬兰的大学：追求研究卓越

Seppo Hölttä, 蔡瑜琢

Seppo Hölttä: 芬兰坦佩雷大学 (the University of Tampere) 管理学院高等教育中心
教授

电子邮箱: seppo.holtta@uta.fi

蔡瑜琢: 坦佩雷大学管理学院高等教育中心 (代理) 教授

电子邮箱: yuzhuo.cai@uta.fi

芬兰高等教育的二元制由 14 所大学和 25 所应用科技大学 (理工学院) 组成。其中, 大学旨在促进独立研究和发 展高层次学历培养, 而应用科技大学则注重培养学生的实践能力, 旨在促进地方经济发展。本文主要讨论芬兰大学在促进研究卓越这方面的改革。

目前, 芬兰高等教育政策的指导原则主要聚焦于研究卓越、国际化和国家创新系统。自 20 世纪 80 年代后期以来, 高等教育政策和政府的政策执行机制都已经发生了重大改变, 其核心是, 政府在构建一个在全球化知识经济背景下有利于国家发展政策的高等教育系统过程中, 起到主要引导作用。因此, 社会服务现在被牢牢绑在传统的学术质量观念上, 打造实力强劲的研究型大学已经成为一个越来越重要的目标。

从全球层面来看, 政府在推进研究卓越和世界一流大学建设上有两种主要方式, 即通过大学合并和运用竞争性资助机制。此外, 引入大学自治和财务自主已成为改革的主旋律。芬兰的高等教育政策是这三者的结合。

传统价值观及其在 20 世纪 90 年代的改变

芬兰政策及政策实施的独特之处可以在

芬兰高等教育史和北欧福利社会价值观中找到。19 世纪以来, 大学的理念在德国洪堡模式的强烈影响下不断发展。也就是说, 自此以后所有的大学都成为研究型大学, 以广泛的学术自治为特征。二战以后, 芬兰和其它北欧国家涌现出福利社会的意识形态。20 世纪 90 年代之前, 由于平等原则, 所有大学的资源分配都是均等的, 同时这些大学也没有各自清晰的学术焦点。北欧的平等价值观也反映在: 芬兰的大学教育免学费; 教授和教师拥有公务员地位、工资差距不大, 而这些只是在近年才有所改变。因此, 以往的体制缺乏竞争元素。

然而, 政府于 20 世纪 90 年代间引入了新的高等教育和研究政策, 并在大学中被渐渐实施。其取得的重要里程碑包括: 将高等教育政策和国家、地区政策联系起来, 将这些国家战略和欧盟政策结合起来, 从而提高芬兰和欧洲的竞争力。20 世纪 90 年代初的经济大衰退影响了芬兰整个社会, 高等教育和研究的体制改革推动力就来自大衰退之后国家所需的紧急复苏政策。在经历一场经由广泛社会参与的政治讨论之后, 教育和研究被认定为保障国家长期可持续经济增长所需的主要国家资源。

以绩效为基础的拨款机制

这个政治决策带来了一轮新的以经济增长为导向的高等教育和研究政策及政策实施机制的重大改革，即：政府通过立法承诺稳步增长对高等教育和研究的财政投入，以及加强体制的放权。例如，在大力放权之后引入教育部和大学之间的对话机制。20 世纪 90 年代中期，作为整个公共部门改革的一部分，教育部和大学一起逐步向绩效导向的预算分配模式转变，涉及自治、问责制和竞争。同时，通过国家研究体制（包括博士培养）改革引入国家预算分配的财政激励机制，研究卓越也被采纳为高等教育政策的一个明确目标。

大学自治

大学的财务自治被系统地提升了。2010 年，大学被正式从政府预算中分离出来，其法律地位被改变。根据 2010 年出台的《大学法案》（*the Universities Act*），目前多数大学的法律地位是自治的公法人单位。但是，也有两所大学的法律地位被冠之以“基金会大学”（*Foundation Universities*）之称，受一项私人法案管辖。尽管大学已经拥有财务和治理上的自治权，但政府仍然在按照公立大学旧框架下发展出来的主要原则继续资助这些大学。主要区别在于，政府的投入不再是通过政府拨款的形式，而是作为政府补贴，学校也有支配法人财产的权利。改革的主要目的是通过推动筹资渠道的多元化，将具体的竞争机制引入体制，同时保障对大学的基本资助额度，从而提供一个安全的财务环境。

《大学法案》框架下的大学改革还有一个主要特征：在基于学术自治传统的洪堡模式之后，将利益相关者引入治理结构。今天，大学董事会成员中有 40% 需要来自大学外

部，对董事会主席也作同样要求，事实上他们大部分人都是工业界的领军人物。此外，大学校长的任命权被移交给大学董事会，任命模式强调民主和所有师生群体的参与。

大学合并

芬兰人口少，传统政策是平均分配学生人数，因此芬兰的大学规模一直都很小。唯一的例外是赫尔辛基大学（*the University of Helsinki*），这所大学虽然与其他大学地位平等，但它是芬兰主要的研究型大学。政府在颁布新的大学法案的同时，还实施了体制改革，促进研究卓越、改进教育和研究的社会服务功能。21 世纪的前十年，高等教育重组最具体的案例是四所大学合并，其目的是追求研究卓越、办学效率，以及引入多学科。

例如，以打造世界一流研究型大学为明确目的的、最重要的合并是阿尔托大学（*Aalto University*）的建立，即芬兰的工程类重点大学赫尔辛基理工学院（*Helsinki University of Technology*）、重点商学院赫尔辛基经济与工商管理学院（*Helsinki University of Economics and Business Administration*）和赫尔辛基艺术与建筑大学（*Helsinki University of Art and Design*）的合并。除了打造学术卓越，该合并还有一个特征是密切结合国家创新政策、为工业界服务。体制改革之前，相关分析和公共讨论的结论是：芬兰工业要在全球市场中加强竞争力，亟需一个能将工学、商学和设计三者相结合的多学科路径。因此，政府和工业界都承诺，要在上述三所已有大学的优势基础上打造一所新大学。政府还为阿尔托大学的基金会吸纳捐赠提供了有效激励。例如，承诺工业界每投入 2 欧元资助，政府就相应投入 3 欧元的配套资金。

竞争性拨款

20世纪90年代后期以来,政府为大学提供的核心拨款额度主要根据大学的教育和研究产出分配,旨在提高大学系统的效率和竞争力。最近,“研究卓越”的分量有所增加。所谓“研究卓越”,主要根据同行评议论文数量来测量,其它主要指标还包括博士学位授予数、从外部获取的竞争性研究经费数。

芬兰的大学有两个国家级研究拨款组织,一个是面向学术研究的芬兰科学院(the Academy of Finland),另一个是芬兰技术和创新局(the Finnish Agency for Technology and Innovation)。前者是一个传统的学术研究拨款组织,但在过去15年中,该组织成为国家创新系统的一部分,其资助的项目多数面向社会问题的解决方案和国家竞争力的发展。芬兰技术和创新局则主要为具有很强的工业联系,聚焦于国家竞争力和创新的研究和技术项目提供资助。换言之,只要大学和公司合作,就有资格获得资助。两个组织的资助机制都以竞争为基础。

芬兰科学院的资助计划之一是“卓越中心计划”(Centres of Excellence),该项目为研究团队和联盟提供开展具有国际高水平研究的机会,平均一个中心一年可以获得100万欧元资助。项目的目的在于为各个研究团队营造良好的环境,帮助它们在科研交叉领域取得科研突破。这一资助方式于20世纪90年代后期建立,是大学资助模式改革中的一部分,当时以历史为依据的预算分配被以绩效为导向的分配方式所取代。这是一个具有高度选拔性的资助方式,例如,2014~2017年度,只有14个卓越中心被芬兰科学院的同行评议提名。卓越中心的资助来自芬兰科学院、工业界和参与的大学。通常,它们是合

作的大学和研究所共同努力的结果。未来四年,由赫尔辛基大学作为协调方的卓越中心有六个,这彰显了该校作为芬兰重点世界一流研究型大学的地位。尽管来自芬兰科学院的资助并不是很高(根据研究性质而定,约每年100万欧元),卓越中心的地位仍然很重要,因为经费还来自其它的资助者。多数卓越中心的研究领域为自然科学、技术和医药领域,其中很多都与国家科学技术和创新战略中心(Strategic Centres for Science, Technology and Innovation)有关。国家科学技术和创新战略中心是一个受产业驱动、主要由芬兰技术和创新局资助的创新政策实施部门,旨在促进芬兰最具战略意义的产业集群的发展。

结论

在那些多管齐下、实施政府政策促进研究卓越的国家中,芬兰是一个典型,政府不仅引入竞争机制,还将主要的政策实施工具控制在手中。换句话说,政府部门和大学之间以绩效为导向的资助和合同尊重大学自治,但同时也有有效影响学校听从政府的意见。尤其,政府推动大学聚焦于自然科学和地区优势,以此塑造学术形象。此外,新的研究资助机制和项目激励着大学追求卓越,尤其强调产学合作。目前,所增加的研究经费其主要潜在来源都是国际性的,特别是欧盟研究项目和工业界的资助。芬兰大学系统的体制改革不断推动多学科发展,并促进国内外产学合作。已经在促进国内外的多学科和产学合作。上述所有措施都旨在激励世界一流研究型大学的建设。

要实现研究卓越,并将其与国家、地区和全球生产和创新联系起来,主要障碍可能是缓慢改变的学术价值观和内部导向的学术

文化。也就是说，芬兰的大学仍然有学术象牙塔的历史包袱，它们植根于被牢固控制的高等教育体制。然而，它们也已经开始在新

《大学法案》所提供的新的、更具有弹性的框架下，通过引入多学科、合并小单位以及改造管理和领导模式来改革内部组织。

挪威：卓越研究中心

Liv Langfeldt、Siri Brorstad Borlaug、Egil Kallerud

Liv Langfeldt：北欧创新、研究和教育研究所（Nordic Institute for Studies in Innovation, Research and Education）副所长

电子邮箱：liv.langfeldt@nifu.no

Siri Brorstad Borlaug：北欧创新、研究和教育研究所研究员

电子邮箱：siri.borlaug@nifu.no

Egil Kallerud：北欧创新、研究和教育研究所高级研究员

电子邮箱：egil.kallerud@nifu.no

在挪威，20世纪80年代后期以来的政策讨论促成了追求研究“卓越”的明确措施和“卓越中心”（Centres of Excellence）项目的引入；不过，2000年以前这些讨论对整个研究政策的影响还非常有限。20世纪90年代出版的几个挪威研究评估报告揭示出一个相对“扁平”的版图：较为平均地分配资源，几乎没有研究团队具有较高的国际质量。为了解决这一问题，挪威在90年代中期启动了两个计划，旨在有选择地大力资助那些“最优秀的”研究人员和研究团队。第一个计划是1992年启动的“高级研究中心”（Centre of Advanced Study）计划。该中心以美国普林斯顿高级研究中心（Princeton Centre for Advanced Studies）为模板，一直以小规模为特点，为三个精选的小型研究团队提供一年全身心开展基础研究的机会。该中心由挪威科学与文学院（Norwegian Academy of Science and Letters）管理和负责。第二个计划始于1998年，于2003年终止，旨在遴选杰出的研究人员并为他们开展国际顶尖水平的研究提供资助和工作环境。这两个计划开

辟了一条新的政策发展道路，并将向顶尖研究团队重点投入资源这一点合法化。2003年，“杰出青年研究员”（Young Excellent Researchers）计划取代了第二个项目，虽然模式延续前者，但覆盖所有研究领域，面向处于研究职业初级阶段的青年研究者。

卓越政策的这些初步进展是为了回应官方的研究政策。换句话说，与集中资源和促进卓越相比，过去研究政策所关注的是撒网式和更为平均主义的资源分配。1999年，有关发展研究的“白皮书”（White Paper）提出了发展“卓越中心”计划，当时有这样一个论点：类似项目已经在其它国家被成功引进，其中丹麦1993年启动的“卓越中心”计划就是一个重要佐证。2002年，挪威的“卓越中心”计划启动，公开征集研究方案。

“卓越中心”的政策目标、规章和资助

“卓越中心”计划的目的是通过长期慷慨的资助推动前沿的基础研究，加强挪威科学研究的国际化，促进研究人员的招聘。该计划由挪威研究理事会（Research Council of

Norway) 主管, 是一个公开的国家项目, 目前包括 21 个卓越中心, 这些中心可以持续 10 年获得资助。大学、大学附属医院、本科生院和独立研究所都可以申请“卓越中心”计划的拨款, 成为“卓越中心”的主办单位。此外, 一个卓越中心也可以由多个研究机构合办, 其中一个为主办单位, 其它则为合作单位。

每个卓越中心每年可以获得 100~180 万欧元的拨款, 年度总预算为 3300 万欧元 (2013 年)。除了“卓越中心”计划的拨款, 这些中心还从其主办单位获得额外的配套经费, 并在争取其它竞争性研究项目时有相对更大的成功机会。平均来说, “卓越中心”的拨款占该中心总预算的 20%, 来自主办单位的拨款则占到四分之一。“卓越中心”的规章制度指出, 挪威研究理事会和主办单位应该为这些中心提供研究所需的各项资源。此外, “卓越中心”计划和主办单位的拨款额度由合同确定, 并且不与该中心从其他渠道所能获得的资金额度相挂钩。这些受资助的卓越中心的规模和申请其他拨款的能力都不受限制。“卓越中心”计划对所有研究领域和研究团体开放, 这些研究领域和主题之间也没有优先次序。这些规章制度对于挪威科学家而言很有吸引力, 而被赋予“卓越中心”这一地位的机构也相当有声望。

根据国际同行评议进行选拔

对卓越中心的选拔由挪威研究理事会组织, 以公开征集研究计划和两轮国际专家委员会评议程序为基础。到目前为止, 每五年征集一次研究计划。第一次是 2002 年, 挪威研究理事会收到了 129 个研究计划, 初选选出了 40 个, 终选选出了 13 个。2012 年举行

了第三次征集活动, 挪威研究理事会收到了 139 个研究计划, 初选选出了 29 个, 终选选出了 13 个, 取代了之前的 13 个项目, 这些十年期卓越中心于 2012 年到期。绝大部分的卓越中心都分布在挪威的三所最大的大学里: 34 个卓越中心中, 26 个由奥斯陆大学 (the University of Oslo)、挪威科技大学 (the Norwegian University of Science and Technology) 和卑尔根大学 (the University of Bergen) 主办。

卓越中心的地位和经费按“5 年+5 年”的制度提供, 第一个五年结束后各中心要接受国际评议委员会的中期评估, 第二个五年期的拨款与否需根据评估结果而定。到目前为止, 这些卓越中心都通过了中期评估。评估不仅测评了各个中心的科研质量, 还包括卓越中心内部的合作、招聘、主办单位和合作单位之间的关系、中心和相邻环境之间的关系等相关组织问题。

对研究和研究战略的影响

在挪威研究平均主义标准和结构的背景下, “卓越中心”计划代表了一股新风象。换句话说, 这种长期的、一次性的拨款模式为吸引高素质的学者和建立强大的研究共同体提供了有利的条件。此外, 该计划也扩大了研究领域之间的合作, 因为这些中心是跨学科的。相关研究小组同处一地似乎扩大了协同效应, 并维持了一个充满活力的、大力合作的研究环境。

不论是对受资助的研究团队, 还是对努力申请资助的团队而言, “卓越中心”计划加强了国内竞争, 提升了挪威在研究方面的雄心壮志。在一个 (其他方面都) 实施平均主义的研究环境中, “卓越中心”计划打造了研

究高峰，并且把通过一些研究团队进行集中投入从而追求卓越的研究标准的这一做法合法化了。人们认为，“卓越中心”计划将挪威的科学研究大幅提升质量，并对其产生了持续性的影响。该计划在促进研究人员招聘和加强挪威研究国际化方面尤为成功。此外，该计划在资助国际项目、高级兼职研究员、客座研究员和提供差旅费用等方面也取得了成功。除此之外，那些出国寻求学术发展并同时与挪威保持紧密联系的博士生和博士后强化了挪威的国际学术网络。“卓越中心”计划在某种程度上也加强了国内合作，特别是在那些同时具有多个中心的学术领域。

根据报告，卓越中心还广泛提升了大学制定优先战略和组织研究的能力，以及维持更强学术领导力的能力。也就是说，这些中心在面对新的领导力挑战的同时，也提供了更多的领导力职位。此外，中心的组织运作也引发了挪威各大学在领导力和人事责任方面颇具成效的讨论。

措施和挑战

建立之初，“卓越中心”计划就获得了广泛支持，受到的阻力也比预期的少。现在，该计划已经深深嵌入挪威的研究政策中。然而，也有批评指出：对研究人员个人和小研究团队的拨款机会减少了。还有一些针对卓越中心选拔程序的批评，主要是对一些研究领域未受重视、程序缺乏透明等方面的批评。

总之，相比于多数其他研究团队，卓越中心有更多的外部拨款和更好的财务制度。此外，大学要为卓越中心提供配套经费的制度也意味着主办单位的内部经费竞争更加激烈，在一些情况下减少了其它内部研究团队

可获得的资源。对相关研究领域人力资源进行的分析表明，卓越中心在许多领域雇佣了大量在读博士生，这不仅对当前的资源分配产生了影响，还对研究领域的发展产生了长期、潜在的影响。该计划还为某几个领域提供了大量高级职位和研究员职位。而在那些本就人才缺乏的领域，没有收到“卓越中心”计划资助的分支领域则处于“穷困潦倒”的危机中。同时，一些卓越中心中大部分研究人员来自国外，也有一些卓越中心吸引到了那些原本可能不会踏入学术界的研究人员。在学术界，招聘并不总是一个国家内部的零和游戏。

除了促进研究卓越，“卓越中心”计划在组织结构方面也可圈可点。换句话说，具有特定组织结构的临时单位对主办卓越中心的大学和院系带来了挑战——怎样管理一个处在传统结构之外的、相对有实力的研究单位。同时，这些传统的结构也为中心带来了挑战——卓越中心必须找到自己的位置，并在可能抗拒这一计划的环境中打造一个新组织。总结十年来的经验，我们可以认为，这些中心动摇了大学的一些沉积结构，因为它们必须有相对应的管理程序和战略才能满足和融入临时的研究单位。

在大学领导层，卓越中心被授予了高度的优先地位。此外，即使它们需要很多额外的组织和管理，但是主办单位仍然青睐它们，并且相信为了拥有它们值得付出额外的努力。通过吸引其他外部拨款，这些中心能带来额外的财政收入，同时它们还提升了大学的地位。不过，也有一些中心和它们所处的环境关系紧张。这可能是由于教育岗位重要人才的“流失”、中心无法处理好学术优先次

序, 或者人们的态度、关系和有限的领导能力等引起的。需要特别指出的是, 不论在中心建设时期或者之后, 一些卓越中心在大学常规单位的活动中被孤立, 对此这些中心已经采取了一些措施保障自身更好地在其主办

机构中定位。此外, 那些能在建设期间很好地融入当地研究环境的卓越中心, 即使在“卓越中心”计划逾期后, 也有更好的机会在其主办单位中继续开展活动、保持竞争力。

俄罗斯顶尖大学：从“教学卓越”到“研究卓越”

Maria Yudkevich

俄罗斯高等经济学院 (National Research University Higher School of Economics)
副校长

电子邮箱: yudkevich@hse.ru

对俄罗斯高等教育体制来说,过去十年不仅是主要部门开展广泛改革的十年(例如新的大学录取制度引入了全国高中毕业生统一考试),还是政府实施若干卓越计划以支持俄罗斯顶尖大学的发展十年。事实上,这些政府计划大大影响了俄罗斯的高等教育版图。尽管这些计划未能解决高等教育体制中质量较差的大学占多数的问题,但它们的确让大量相当优秀、有前途的大学在教育质量上获得了很大改善,并且在一定程度上提升了这些大学的科研能力。俄罗斯政府在过去八年中启动了三项主要计划:创新教育计划(Innovative Educational Projects),国立研究型大学发展和支持计划(National Research University),以及最近的全球竞争力改进计划(International Competitiveness Program)。这三项计划都遵循同一套基本原则,其运作过程中几乎不接受来自工商部门在高等教育经费和产学合作中的投入,导致了计划的实施出现了共同的低效率。

“创新教育计划”

2006年初,教育部宣布了开展“创新教育计划”的两轮竞争。该计划的主要目的是为所资助的大学提供奖励和资源,以发展高质量的本科和研究生教育项目(并大力改善现有的教育项目)。对很多大学来说,打造硕士层次的教育是非常大的挑战,而该计划的

目的就是帮助大学在新的制度规则下(俄罗斯于2003年加入“博洛尼亚进程”[the Bologna process])打造优秀的硕士专业。由于大学的许多领域(如社会科学)明显缺乏高层次的优秀人才,因此该计划把重点放在人力资本投资上,为教师提供各种形式的培训活动和高级课程。

每所大学都提交一份申请,详细阐述活动提案和预期成果。在首轮“创新教育计划”中,教育部收到了200份申请,一个由政府官员、研究人员和俄罗斯商业界人士共同组成的执行委员会从中挑选了17份申请进行资助。成功的竞标者获得了两年总计高达200亿卢布(6.6亿美元)的财政支持。半年后举办的第二轮竞争中,共收到267份申请,其中40份脱颖而出,得到了200亿卢布的资助,其中约三分之一的项目位于首都莫斯科地区。总之,该计划的目的是聚焦教育、改善教学和研究,但是该计划并没有针对后者设置雄心勃勃的目标。换句话说,政府的资金投入到了以下方面:教师和研究人员培训、购置研究设施以及发展创新的教育项目。为了保证资金不会被大学的总预算“吞并”,该计划禁止大学将政府投入资金用于支付教职工的工资。

要弄清楚该计划对这些大学和俄罗斯高等教育产生了哪些影响并不容易,因为直到

计划结束时也没有看到相关的缜密分析。根据从教育部传出的非官方信息，参与的大学直到最后一刻还相信该计划将继续延续几年。然而，计划却被终止了。由于短期的财政支持没有为已经启动的项目带来稳定的财务保障（少有例外），许多大学不得不突然停止了发展项目。唯一能够阐明计划所带来影响的客观事实是：29所被授予“国立研究型大学”地位的大学中，有25所大学受到了“创新教育计划”的资助。

“国立研究型大学”计划

政府的另一个战略计划旨在通过为大量顶尖大学提供以项目为基础的财政资助，以此支持俄罗斯的研究和技术发展。这些大学被授予了“国立研究型大学”的地位，人们期望它们在人力质量和基础设施上取得显著改善，并在学术市场上提升影响力和知名度。2008年10月，梅德韦杰夫总统签署了一份法案，宣布两所大学成为国立研究型大学：国立核研究大学（National Research Nuclear University）和莫斯科工程物理大学（Moscow Engineering and Physics University）。然而，除这两所以外，其他大学需通过竞争才能成为国立研究型大学。两轮竞争下来，共有27所大学脱颖而出，其中2009年12所入选，2010年15所入选。

各所大学需提交五年发展计划申请。按照形式和内容要求，每份申请需包括6个部分：（1）大学科研和教学优先领域的列表和简述；（2）项目目标；（3）计划开展活动的详细列表；（4）申请经费的理由；（5）治理模式；（6）计划实施后，对国家科学、教育和经济的预期社会经济影响。每个计划的重点内容是大学对项目实施过程和效果的一些重点指标许下的承诺。拨款机制的形式是直

接进行分次财政补助，每次拨款都要根据上一次的成果报告而定。计划制定了各项条款和条件，严格限定了经费使用，例如经费不能直接被用于支付工资（无论是教师还是研究人员）。

该计划的一个重要特点在于：计划被设计用于支持研究和教学，但不是覆盖整个大学，而是只针对有限领域。这至少造成两方面的低效率：首先，一旦将指定领域的资源花费在其他方面，大学需要花大力气给出相关解释，且偶尔可以过关。其次，计划并没有提出明确、透明的绩效指标要求，因而让大学有机会“玩数字游戏”。这不是与关键指标设计相关的唯一问题。这些关键指标用于测量教育活动、研究绩效、国际声誉和财务稳定上的成功。许多专家对指标方面的问题提出了质疑，例如这些指标很难核查（如在重点专业领域就业的学生数）。此外，由于这些指标不能明确测量大学学术发展，该计划可能会导致质量降低。最后，由于在相关学术标准上缺乏清晰度，一些指标不能顺利、有效地产生作用，例如有些指标在评估一所大学的整体研究生产力时没有区分国际同行评议的期刊和国内期刊。

尽管该支持国立研究型大学的计划有明显的局限，但是该计划对俄罗斯的高等教育产生了重要影响。不过，该计划并没有将研究与教学结合起来，资助领域也具有不均衡性。换句话说，理工类院校受到偏爱：2009~2010年间入选成为国立研究型大学的29所学校中，有17所（59%）是理工类院校，九所（31%）是传统院校，还有一所社会科学大学、一所医学院和俄罗斯科学院下属的一个学术中心。此外，入选大学中11所都位于莫斯科地区。

“国际竞争力”计划

2012年末，俄罗斯总统普京签署了一项法案，该法案的目的是在2020年之前，将至少五所俄罗斯大学建设成世界排名前一百的顶尖大学。虽然这个目标似乎过于野心勃勃，却明确表达了政府的优先事项。在这点上，根据最近的学术职业调查，约90%的俄罗斯公立院校教师认为，加强国家的国际竞争力应该是该国高等教育的最优先事项之一。

2013年六月中旬，约50所大学向“国际竞争力”计划提出了申请，国际专家和俄罗斯专家通过评估从中挑选资助对象。到目前为止，资助学校数目尚未明确。不过，2013年的资助总额已经确定——约90亿卢布（3亿美元）。资助数额不会按比例分配，而是根据大学申请书的质量和大学准备兑现的承诺进行分配。未来数年大学可以从该计划获得的财政支持数额尚未决定。被选中接受资助的大学，其校长们将为计划的实施和成果承担责任。同时，他们的权力将不再是无限的了，因为每所大学都会有一个在很多决策上权力都大于校长的外部委员会。该委员会会包含一些国际人士，目的是为俄罗斯高等教育体制引入世界经验和国际视野。

对这些大学的遴选主要基于大学在今后几年中所计划实现的目标承诺。这些目标包括：在世界大学排名和专业排名中将取得的位置（准确的说，上升50位）；科学引文索引（Web of Science）和Scopus数据库中的师均论文数和引用率；国际教师的比例；在大学主要教育项目中就读的国际学生的比例；大学总收入中，来自非预算来源的收入比例；以及大学录取的全日制本科生和专业学位本科生中，由联邦政府资助的学生在全国高中

毕业生统一考试中所获得的平均分。

一些专家指出，该指标系统的设计可能会使学校力图走捷径。例如，为了达到定量目标而在低层次的期刊上发表文章，引进一些国际化背景很浅的“学术观光者”等。还有人指出，评估标准对人文学科不公，因为期刊不是人文学科发表学术作品的主要渠道。总之，该计划的目标和俄罗斯打造竞争力的优先事项之间存在一些错位。这种错位不只存在于一些指定领域（如技术科学），而是全面的。尽管现在讨论该计划的成果还为时过早，但是人们可以看到，此前的举措中被大大忽略的国际化和研究支持，现在成为了该计划所强调的预期目标。那些国际化程度很低、没有基础研究根基和传统的大学能否取得成功还有待观察。

结论

上述的三项旨在追求卓越的计划具有一些共同特征。在三项计划中，对拨款资助对象的遴选都基于竞争，设定了项目内部发展，以及大学为实现目标而需达到的指标。然而，每个计划中又没有看到政府在财务支持上的长期承诺，这显然对人力资本（包括聘请国际师资、充实终身教职和终身教职序列）等相关事务的长期投资造成了障碍，对快速达成短期目标也会产生意料之外的影响。由于这些计划制定了几十个绩效指标以及大量的文本说明，大学缺乏整体视野，本应努力达成的目标却被遮掩其中。因此，人们对于被选中的院校实施计划后会对高等教育体制产生的整体影响知之甚少。然而，改善俄罗斯顶尖大学的质量势在必行；在这方面，近年来政府政策的持续支持也的确产生了明显成效。

欧盟“2020地平线计划”：向世界开放一流的研究基础设施

林韵香、Christof Schöch

林韵香：比利时学术合作委员会（Academic Cooperation Association）项目主管

电子邮箱：queenie.lam@aca-secretariat.be

Christof Schöch：德国维尔茨堡大学（the University of Wuerzburg）人文数字研究基础设施计划研究员

电子邮箱：christof.schoech@uni-wuerzburg.de

欧洲的背景

当谈及欧盟的政策和重点建设计划时，我们不应该忘记欧盟不是一个国家，而是由28个发展速度和方向都不同的国家组成的区域一体化组织。让局面更加复杂的是，欧盟在教育 and 研究等领域通过“开放协调法”（Open Method of Coordination）来治理，这意味着成员国之间的合作是自发的。在该背景下，人们可以更好地理解为什么当欧盟引入一项共同战略或结构时很难达到步调一致。这也揭示了为什么“欧洲附加值”（European added value）在欧盟介入一些特定领域时如此重要（正当性的来源），如教育和研究领域，这在很大程度上仍然代表了各国政府的能力。

然而，尽管欧盟有必要打造内部凝聚力，但是过于强调“欧洲附加值”和欧洲的共同竞争力的话，与非欧洲国家合作时就可能错误传达一个以欧洲为中心的信息。不过，这种全球合作中的尴尬境地有可能会随着欧洲2014年启动的新一轮资助项目而改变。

新的欧盟教育和研究资助计划对非欧盟国家意味着什么

如果说“欧盟的资助计划会在2014年开

放”，这句话带有一定的误导性；因为在某种程度上这些项目已经开放了。通过欧盟的教育和培训资助项目（例如“伊拉斯莫世界之窗计划”[Erasmus Mundus Programme]），欧盟在资助非欧盟国家学生到欧盟求学方面非常慷慨。“让·莫内计划”（Jean Monnet Programme）也一直为非欧盟国家的大学提供欧盟相关课程。此外，在“欧盟框架计划”（目前是“第七框架计划”[the Seventh Framework Programme]，简称FP7）下，“玛丽·居里行动计划”（Marie Curie Actions）及其他资助计划都资助了大量非欧盟国家的研究人员在欧洲开展研究工作。例如，根据报告，中国（在FP7中参与度最高的八个国家之一）在FP7中有285位参与者，接受了总计2630万欧元的资助；在“玛丽·居里行动计划”中有412位研究人员和171所院校参与，接受了总计1230万欧元的资助。很明显，那些将欧盟作为求学目的国或研究兴趣国的非欧盟学生和研究人员已经受益于欧盟的财政支持。

欧盟在2014年开放其资助计划与非欧盟国家接受欧盟资助的机会并没有太大联系，但是与其参与资助计划的方式有关。在即将于2014年取代FP7的“2020地平线计

划”(Horizon 2020)中,非欧盟国家可以全面参与到欧盟计划中来,这意味着它们将有权制定研究计划,但这些国家必须分担研究计划配套资助的责任。即将于2014年启动的针对教育、文化、青少年和运动的“全伊拉斯谟计划”(Erasmus for All)也将同时向非欧盟国开放,寻求解决欧洲和其他国家(特别是亚洲)的学生流动不平衡问题。欧盟的旗舰流动计划——“伊拉斯谟计划”一直被限制在欧洲之间的流动,现在也将开放给全世界,这意味着欧洲的学生可以用欧盟的资金赴国外或非欧盟国家求学。

“全伊拉斯谟计划”和“2020地平线计划”都还在酝酿之中。到目前为止,确切的计划规则和细致的预算分配还在协商之中。“全伊拉斯谟计划”还将改名为“伊拉斯谟+计划”(Erasmus+)。然而,“将欧洲开放给全世界”这一大致的政策方向已经被确立下来了。

欧盟的卓越研究计划及其在新政策框架下的角色

开放是一方面,是否有吸引力是另一方面。毫无疑问,例如“玛丽·居里行动计划”等高调的资助计划正在并会继续吸引人才。但是,除了资助,欧盟还可以为世界其他国家提供什么才能吸引他们全身心投入呢?为了回答这一问题,我们可以在2012年12月欧洲委员会发布的国际化宣言《扩大并聚焦欧盟国际研究和创新合作:战略路径》(Enhancing and Focusing EU International Cooperation in Research and Innovation: A Strategic Approach)中寻找线索。在这份文件中,欧洲委员会特别强调了研究基础设施。文中提到:“‘研究基础设施’行动将特别聚焦于国际合作。其网络基础设施部分将发挥

重要作用,因而而具有内在的国际维度(p.4)”。

从2002年开始,随着“欧洲研究基础设施战略论坛”(European Strategy Forum on Research Infrastructures)的启动,欧盟一直系统建设世界一流的研究基础设施。这些研究基础设施可能是“单点式的”(一个位置一项资源)、“分布式的”(资源呈网状分布)或“虚拟的”(服务经电子提供)。换句话说,研究基础设施可以是一个真实的大实验室,比如“欧洲核子研究组织”(Conseil Européen pour la Recherche Nucléaire),在这里全世界有才能的研究人员面对面交流,一起开展顶尖研究;研究基础设施可能是一个非常庞大的数据库,由许多不同来源的数据组成,通过云储存开放给全球的科研共同体;研究基础设施也可能包含一系列设施和资源网络,可供相同领域的科学家取用。任何一种形式的研究基础设施在本质上都是卓越的,立足欧洲、面向世界。最终,人们期待到2014年这些研究基础设施能够支持打造一个竞争性的、富有吸引力的欧洲研究区域。

事实上,研究基础设施在展示欧盟不同领域的研究卓越方面极具潜力,因此也能吸引到国外人才的智力投入或者资金投机来共同发展、共同资助。然而,虽然这些大型基础设施将会很庞大、极富吸引力,但是它们常常也会变得非常复杂,让不熟悉欧洲运作的人们很难理解。

理解欧盟的研究基础设施

要推出欧盟的研究基础设施,最简便的方式就是将它们描述为不同领域的“欧洲核子研究组织”,从社会科学和人文到天文学、基因科学,一直到纳米技术。这些研究基础设施为一个特定的研究领域提供技术解决方

案, 允许资源的交换和再利用, 例如研究数据或软件在所有成员间交换, 为具备广泛技能和经验的人才搭建网络, 为处于事业发展早期的研究人员提供培训机会。“欧洲研究基础设施战略论坛”在欧盟层面上为研究基础设施提供政策支持, 根据其报告, 70个欧洲研究基础设施网络中有48个基础设施受到了欧盟FP7的支持。欧盟对这些项目的总财政捐赠达到约7亿欧元。但必须要注意到, 欧盟对这些研究基础设施的资助程度各异, 参与国的国内资助占研究基础设施资金的比例可能比欧盟资助更大, 尤其是在欧盟资助占大头的那个阶段过去之后。

尽管研究基础设施为研究人员提供了许多科研支持, 但它们不仅昂贵, 且规模庞大、结构复杂。造成这一不可避免的情况原因在于: 单个欧洲国家无法做到将给定领域在全欧洲的财政资源和人才都集聚在一起创造经济上的规模效应和协同效应。形态多元的国家法制框架下产生的泛欧洲研究基础设施组织过于复杂, 这消耗了该网络大量的资源和能量, 在某种程度上导致发展停滞。对此, 欧盟的解决方案是为这些泛欧洲研究基础设施提供一个独特的欧洲法律地位, 命名为“欧洲研究基础设施联盟”(European Research Infrastructure Consortium), 2009年生效。已经有两个成熟的研究基础设施通过加入ERIC简化了自身的治理结构, 还另有七个研究基础设施正在申请加入欧洲研究基础设施联盟。

欧洲非常多元化, 是一个既得幸运之神眷顾但发展步伐又踉踉跄跄的地方。一方面, 多元化和对多元化的尊重让欧洲保持了文化和语言的丰富。另一方面, 这也会让协商谋求共识过程浪费大量时间和精力。因此, 研

究基础设施的建设并不总是像期望的那样顺利、快捷。事实上, 许多基础设施还在筹备中。“欧洲研究基础设施战略论坛”在2012年11月发布的一份关于研究基础设施实施情况的报告这样总结: 在建的基础设施有27个, 2015年将有一到两个研究基础设施能投入使用。这些在建的研究基础设施, 占居了48个泛欧洲研究基础设施的60%, 这意味着40%的研究基础设施在完全投入使用之前还有很长的路要走。

从“2020地平线”计划和相关的国际化宣言来看, 欧盟似乎认为向世界其它地区开放一些研究基础设施并共同发展的时机已经成熟, 特别是网络基础设施。没人知道这究竟怎样才能达成, 但我们也许可以根据其中一个名为“人文数字研究基础设施计划”(Digital Research Infrastructure for the Arts and Humanities)的网络基础设施来预测一下。

向中国开放网络基础设施

“人文数字研究基础设施计划”就像它的名字那样, 是少数已有的面向人文学科研究人员的数字研究基础设施之一, 旨在让历史、文学、艺术史和音乐研究领域的人员用创新的数字方法发现、访问和分析相关数据, 这些数据包括数字化的手稿、大量文本数据或图像数据库。作为基础设施, 该计划有三种服务方式: 为合作研究提供不同种类的技术解决方案; 帮助获取人文领域中可数字化的信息资源; 积极构建一个研究人员共同体, 研究人员可以最大程度地利用此计划的工具和资源进行研究。

有好几种方式可以将这一基础设施开放给欧洲以外的研究人员。由于“人文数字研究基础设施计划”努力让工具、资源和信息

能够尽可能的开放获取，许多服务已经可以让任何感兴趣的人通过互联网获取。但是对于非欧洲的研究人员来说，特别是中国或亚洲的研究人员，他们要积极使用一项研究基础设施并非那么简单。在技术层面上，这可能意味着需要提供非欧洲语言的资料，例如用标准万国码(Unicode)支持中文、额外的音译附件以及支持从右至左输入历史文本的编辑。然而，与管理上的挑战相比，提供这些功能还算简单。所谓管理上的挑战是指：一个非欧盟国家怎样才能成为“欧洲研究基础设施联盟”成员呢？这样一位成员应该具有什么地位呢？

这些管理问题正在得到解决，欧亚合作所提供的机会可以为其寻找有效解决方案：对很多国家来说，欧洲和亚洲的文化在很多层面上一直都有互动，例如政治、哲学、文学和艺术等；如果研究人员能够在同一个具有弹性的技术框架下同时获得两种文化的相关资料，这将会毫无疑问地丰富这些文化的比较研究。在这个过程中，研究人员可以研究理念的传播和转化，这种研究也许可以揭示欧洲和亚洲之间的距离要比看上去更小。此外，这会鼓励我们努力思考：我们怎样才能在一起合作研究、数字研究基础设施怎样才能让我们在这片共享的领地里探索得更

远。

未来是在共同基础上取得卓越

2012年5月，欧盟和中国建立了“中欧高级别人文交流对话机制”(EU-China High Level People-to-People Dialogue)。接着，2012年9月中欧领导人会晤建立了新的“创新合作对话机制”(High level Dialogue on Innovation Cooperation)，2013年4月启动了“中欧高等教育合作与交流平台”(EU-China Higher Education Platform for Cooperation and Exchange)。这些行动已经表明了双方谋求高等教育和研究合作的政治意愿。后续待解决的问题可能是与谁合作、用什么方式合作以及在什么领域合作。几年前，大学可能不顾当地情况，直接去找一些排行榜上排名前列的大学，欲与这些大学在最受欢迎的领域展开合作。现在，多样性的卓越受到越来越多的重视，因此，寻找共同兴趣点、建设不同的卓越中心也成为基本原则。

在欧盟的层面上，我们已经可以看见选择和支持不同领域的泛欧洲研究基础设施的思维得以发挥。但是，同样的思维逻辑是否可以被拓展到全球层面还需要更多的开放心态来包容多样性，并去发掘有说服力的共同兴趣点，共同面对全球化的挑战。

Building World-Class Universities: Excellence Initiative in Germany

Jiani Zhu

Assistant Professor, Graduate School of Education, Shanghai Jiao Tong University

Email: zhujiani@sjtu.edu.cn

Glorious History vs. Mediocre Accomplishments

The history of the oldest German universities – the University of Erfurt (founded in 1379), Heidelberg University (1386), the University of Cologne (1388), etc. - can be traced back to the middle ages. In the late 19th century, surpassing the Great Britain and France, Germany became the centre for science in the world, and home of the most prominent researchers in many scientific disciplines (physics, mathematics, chemistry, and engineering, etc.). A considerable number of young people travelled all the way to the country to pursue the most advanced knowledge there.

Nevertheless, when one refers the most prestigious universities of today, one probably may not immediately call into mind any German universities alongside the list of “big names” such as Harvard, Stanford, Oxford, or Cambridge. German universities’ performance on global rankings, such as the Academic Ranking of World Universities (ARWU), QS World University Rankings, and the Times Higher Education (THE) World University Rankings – the three most influential and widely observed international university rankings, seems to sustain the impression. In spite of the different indicators, these three league tables demonstrate similar results. That is, compared with their American and British counterparts, few German universities have managed to squeeze into the top 100 in the world university rankings. In the last five years, the highest rank that German university has achieved is No.43 in the THE ranking in 2010,

while the total number of German universities among the top 100 list is within six.

Staying Egalitarian vs. Pursuing Excellence

Unlike the Anglo-Saxon model, there is no “Ivy League” in Germany. The German system, as well as university systems in many European countries, follows a strong egalitarian tradition: each university is expected to offer research and teaching at the same level. Thus, German universities are only differentiated by their history (long or short) and size/scale (big or small), but never by their reputation (good or bad). In the meanwhile, Germany implements a federal system and almost all universities are public, mainly paid for by taxes. Therefore, theoretically, these institutions are egalitarian: all universities are equal and hence should be treated equally. Nevertheless, such an egalitarian system with equal funding does not stimulate them to be ambitious or to exert themselves to become more competitive in the furious competition, given the lack of competition. Consequently, German universities either lack extra financial resources or are less motivated to seek excellence. Furthermore, because of the aforementioned historic reasons, any intention to launch a campaign, to seek any excellence or to choose a path of inequality by funding elites is often regarded as a taboo subject. Regarding this, when a former Minister of Education and Research, Edelgard Bulmahn, first put forward the idea of such a programme, it stimulated vigorous debate in both scientific and political circles in Germany.

Initiatives: Restructuring German's Higher Education Landscape

Against this background, in 2005, Germany launched the first phase of the Excellence Initiative, aimed at making Germany a more attractive research location, paying attention to the distinguished achievements of German universities and strengthening cutting-edge research in the scientific community. By initiating the programme, Germany universities were seeking to remain as a “lighthouse” in the scientific world, and to become as competitive as such universities as Stanford or Oxford in the global arena. Hence, the purpose of this competitive initiative was to break the egalitarian system and differentiate the universities: only universities with the strongest research potential in the international competition were to be supported.

Organization and selection The Excellence Initiative has had two phases, with three rounds. The first was between 2005 and 2012 (with two rounds respectively) and the second between 2012 and 2017 (with a third round). The competition was run by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) and the German Council of Science and Humanities (Wissenschaftsrat). In the selection process, there was a preliminary and a final stage. In the preliminary stage, universities submitted draft proposal, which were reviewed by internationally appointed panels of experts. According to the DFG, the commission was composed of approximately 300 experts, with about 60% being from other European countries and 30% from non-European ones, while the remaining 10% were from Germany.

In the selection for the first round, about two thirds of all German national universities submitted drafts, of which 22 were selected for funding (including three funding areas). In the second round, 82% of all German universities handed in the drafts, and 28 universities were

chosen for competitive funding. In the final round, 41% (46 out of 111) of the national universities participated, while 39 won the funding. In terms of funding, three quarters came from the federal government, while the rest was provided by the individual federal states. Altogether, about 5.3 billion Euro will have been invested in three rounds, comprising 1.9 billion Euro (the first round), 1.0 billion Euro (the second round), and 2.4 billion Euro (the third round) respectively.

Funding areas The Excellence Initiative is composed of three areas, i.e. Graduate Schools, Clusters of Excellence, and Institutional Strategy. Graduate Schools aims at promoting young scientists and researchers as well as training outstanding doctoral students. Traditionally, doctoral education in Germany has followed a “Master-Apprentice Model”, which emphasizes the importance of the personal relation between students and their supervisors (in German: Doktorvater /Doktormutter). Nevertheless, such a highly individualized model has been often criticized for its high drop-out rate, long duration, doubtful quality of supervision, etc. By establishing Graduate Schools, the intention has been to foster the training of doctoral students by providing structured outstanding doctoral degree programs, an excellent research environment, and frequent communication between doctoral students and supervisors. Furthermore, in the Graduate Schools, doctoral candidates come together to work on projects related to a common interdisciplinary research topic. In general, in the Graduate Schools, doctoral students obtain a broad set of skills, which enhance their personal, professional and career development. Currently, there are 45 Graduate Schools running with the DFG's financial support.

Clusters of Excellence concentrate and focus the research potential at university locations and enhance scientific networking and cooperation among the participating

institutions in Germany, i.e., universities, non-university research institutions, and industries. Under this scheme, the aspiration is to establish internationally visible, competitive research and training facilities. Now, 43 Clusters of Excellence are in the operation. Take the “Centre for Advancing Electronics Dresden”, for instance, the cluster receives approximately 34 million Euro of subsidies during the five-year funding period and currently, 57 scientists and their teams from Dresden University of Technology and 10 other partner institutions (including the Max Planck Society, the Fraunhofer Association, the Leibniz Association, the Helmholtz Association and Chemnitz University of Technology) are working together in the centre.

To qualify for the third funding area, universities are required to win at least one Graduate School and one Cluster of Excellence. Unlike the above two funding areas, Institutional Strategies are intended to strengthen a university as a whole, so that it develops top-level research and thus, is able to compete successfully with the leading players in the international science market. For instance, the Institutional Strategy of the Technical University Munich is “The Entrepreneurial University”, which is oriented toward major challenges facing society in the 21st century in areas such as energy, climate change, and the environment, and calls for entrepreneurial approaches that transcend boundaries of all kinds. Heidelberg University, for instance, proposed “Realizing the potential of a comprehensive university”, emphasizing the importance of interdisciplinary dialogue. After the final round, twelve universities are awarded the titles of “elite universities”.

Outcomes and Critiques

The Excellence Initiative has enhanced German universities’ international research reputation. Although German universities have stayed in similar positions to where they were in the university rankings – merely five

universities manage to squeeze into the top 100 – the Excellence Initiative, has still achieved its original aim to a large extent. Shortly after the launch of first round, the Excellence Initiative caught the eye of the academic world, as it raises the visibility of German science and research vis-à-vis international competitors. Furthermore, the Excellence Initiative has been attracting the brains from all over the world, as the “elite universities” have become increasingly attractive to international scholars. According to the Alexander-von-Humboldt Foundation, the number of foreign researchers coming to Germany for research visits increased by one-third between 2005 and 2009, especially in cutting-edge research fields, such as chemistry/pharmacy, biology and physics. In the meanwhile, international scholars with excellent research performance have been drawn to the elite universities: among the top 10 host universities of the Humboldtians, eight are/have been the elite universities.

The Excellence Initiative has injected research vitality into German universities. Although non-university research facilities (e.g. the Max Planck Society, the Helmholtz Association, Fraunhofer Society, and the Leibniz Association) have been playing a decisive role in research and innovation in Germany, universities also have their advantages when it comes to conducting research. For instance, they are the only institutions covering the interdisciplinary nature of many themes in research. Furthermore, universities undertake the tasks of educating and training of young researchers. By launching the Excellence Initiative, Germany has clearly demonstrated its determination to promote research at universities and its aspiration of intensifying research cooperation between universities and non-university institutions.

The Excellence Initiative has created a culture of competitiveness among German universities. Undoubtedly, the Excellence Initiative pertains to a path of inequality

involving funding of the “elites”, which has triggered a culture of competition among universities in Germany. Moreover, it has brought about a new vitality amongst the German academics, as many universities have begun to rethink their institutional strategies and research performance, present the uniqueness of their institutional profiles, and demonstrate strong competitiveness, all of which is without precedent in the German university landscape. In addition, since the awarded titles of “elite university” are not once for all, universities have to keep their competitiveness so as to defend this status. For instance, in the third round selection, the Karlsruhe Institute of Technology, the University of Goettingen and the University of Freiburg lost their elite status. Moreover, in 2016, an external commission of international experts is to evaluate the programme and its impact on the German higher education system.

The main critiques of the Excellence Initiative can be divided into two perspectives. The first perspective is whether fairness and balance is disregarded. Universities located in

the former Federal Republic of Germany (FRG) dominated in all three rounds of the elite universities. Actually, in the first two rounds, none of the universities from the former German Democratic Republic (GDR) were chosen, but in the third round, two out of the eleven winning universities of the Institutional Strategy status came from the former GDR. The other perspective is whether teaching and education is ignored? As the elite universities celebrate their triumph, many have become worried about the teaching in those institutions: the Excellence Initiative primarily aims at promoting excellent research, instead of investing in teaching or education. Since professors are expected to get involved in the research, it is possible that they have less time investing in teaching; thus resulting in there being fewer opportunities for student tuition. Despite the above critiques, the Excellence Initiative has been a ground-breaking programme in pursuing the research pre-eminence and has changed the scientific landscape in Germany to a large extent.

Pursuing Research Excellence in Finnish Universities

Seppo Hölttä and Yuzhuo Cai

Seppo Hölttä Professor, Higher Education Group, School of Management, University of Tampere.

Email: seppo.holtta@uta.fi

Yuzhuo Cai: Acting Professor, Higher Education Group, School of Management, University of Tampere.

Email: yuzhuo.cai@uta.fi

Finland has a dual (or binary) higher education system comprising 14 universities and 25 universities of applied sciences (polytechnics). The purpose of the universities is to promote independent research and scientific knowledge and to provide the highest education based on this research in their particular fields of study, while universities of applied sciences are mainly for regional development as providers of higher education and as developers of the economic life of the regions. This paper focuses its discussion on the reforms in the Finnish university sector with respect to research excellence development.

Excellence in research, internationalisation and the national innovation system framework are the guiding principles of the current higher education policy of Finland. Since the late 1980s, there have been major shifts in this policy as well as changes to the governmental mechanisms of policy implementation. That is, the government has played a main role in building up a system which supports the national development policy in a globalised knowledge economy. Consequently, social relevance is now strongly linked to the traditional concept of academic quality, and building up strong research universities has become an increasingly important target.

Globally, two main instruments of governments for advancing excellence in research and for the development of world-class research universities are structural

development, typically through institutional mergers and focused competitive funding mechanisms. In addition, a common trend has been to introduce institutional and financial autonomy and the Finnish policy is a combination of these three elements.

Traditional Values and Changes in the 1990s

The unique flavour of Finnish policy and its implementation can be found in the history of the higher education system and from the values of Nordic welfare society. From the 19th century onwards, the idea of a university was devised based on a strong influence of the German-originated Humboldtian model, meaning e.g. that all universities since then have been research universities characterised by extensive academic autonomy. After the Second World War, the welfare ideologies emerged in Finland as well as in other Nordic countries and due to the principle of equity, until the 1990s resources were distributed quite evenly among all universities, with their not having any clear academic foci. The Nordic values of equity are also reflected in the facts that all education at Finnish universities has been tuition free and the professors and other teachers used to have the status of civil servants with quite flat salary distribution, which has only been changed very recently. Consequently, in the past competitive elements were largely missing from the system.

However, a new higher education and research policy was introduced by the

government and slowly approved by the universities during the 1990s. Important landmarks were the process of linking higher education policy to the national and regional innovation policies and also binding these national strategies to the policy of the European Union with the aim of improving the competitiveness of the country as well as that of Europe. A concrete impulse for the higher education and research system reform was provided by the emergent national recovery policy needed after a deep recession in the early 1990s which affected the whole society in Finland. After a profound political discussion involving civil society and industry, education and research were identified as the main national resources which needed be built upon to ensure the sustained long run economic growth of the country.

Performance-based Funding Mechanism

The political decisions led to a new economic growth oriented higher education and research policies as well as profound changes in policy implementation. That is, the government committed itself, through legislation, to a stable growth in finance for higher education and research, strengthened the processes of deregulation and decentralisation of the system, for example, by introducing a dialogue between the Ministry of Education and universities after heavy decentralised control. As part of the reform of the whole public sector, the Ministry of Education and universities together started to move gradually towards a performance based budget allocation model in the mid-1990s, involving autonomy, accountability and competition. Meanwhile, excellence in research was also adopted as an explicit goal of the higher education policy by reforming the national research system (including PhD training) through introducing financial incentives to the national budget allocation model.

Institutional autonomy

The financial autonomy of universities was systematically increased and in 2010, the universities were formally separated from government budget, with their legal status being changed. Based on the Universities Act of 2010, most universities now have a status of an autonomous public entity, while two have a legally termed “Foundation Universities” under a private law. In spite of the autonomy in terms of finances and governance, the government continues to subsidise the universities following the main principles developed within the old framework of government-owned institutions. The main difference is that they now can longer receive financial back up from the government. The main purpose of the reform was to introduce concrete mechanisms of competitiveness into the system by pushing them to diversify their funding sources but in a safe financial environment of guaranteed basic funding.

The other main feature of the university reform in the framework of the Universities Act was to introduce stakeholders to the governance bodies, after the Humboldtian model based tradition of academic self-governance. Today, at least 40% of the members of the university boards need to be external, and the chairperson is required to be so, with most of these, in practice, being industrial leaders. Moreover, the authority for appointing the university rector has been transferred to the university board under a model emphasising democracy and participation of all groups of staff and students.

University Mergers

As a consequence of the traditional policy of equal distribution of the study places in a sparsely populated country, Finnish universities used to be quite small. The only exception was the University of Helsinki, which has had a kind of a national role as the main research university in spite of its equal status with other universities. Parallel with enacting the new

university law, the government has implemented structural reform to promote research excellence and improve the social relevance of education and research. The most concrete cases in higher education restructuring in the 2010s have been four university mergers, with excellence in research, efficiency and the introduction of multi-disciplinarity being the main purposes of these.

For instance, the most important merger with an explicit aim of creating a world class research university is a new Aalto University as a result of amalgamation of the main national engineering university—Helsinki University of Technology, the main business university—Helsinki University of Economics and Business Administration, and Helsinki University of Art and Design. In addition to creating academic excellence, a special feature of this merger has been its close link to the national innovation policy and service provision for industry. The conclusion of the analysis and public discussion before the structural reform was that a multi-disciplinary approach, involving the combination of engineering, business and design was urgently needed to strengthen the competitiveness of Finnish industries in the global market place. Consequently, both government and industry were committed to establishing a new university based on the strengths of the three aforementioned existing institutions. The government also provided effective incentives for the Aalto University to collect donations as initial capital for the foundation of the institution by promising to contribute three additional euros for each two provided by industry.

Competitive Funding

The national core funding for universities since the late 1990s has mainly been based on educational and research output to increase efficiency and competition into the university system. Recently the weight of research excellence measured in particular by number of

peer reviewed publications has been increased. The other main indicators for the measurement of research excellence are the number of PhD degrees and the amount of competitive research funding from external sources.

In addition to core funding, there are two national research funding organisations for Finnish universities, the Academy of Finland, for academic research, and the Finnish Agency for Technology and Innovation (TEKES). Originally, the former was a traditional academic research funding organisation, but within the past fifteen years it has adopted a role as part of the national innovation system and the majority of its programmes are directed towards solutions to social problems and the development of national competitiveness. TEKES mainly provides funding for research and technology programmes that have strong industrial links, with a focus on national competitiveness and innovation. That is, universities are eligible for its funding only if they cooperate with companies. The funding mechanisms of the both organisations are based on competition.

One example of the Academy of Finland's funding scheme is the programme for Centres of Excellence in research, which provides opportunities for research teams and consortia to carry out research of a high international standard (e.g. on average one million Euro per year for one centre). Its aim is to create favourable operating conditions for consortia of research teams to achieve scientific breakthroughs at the interfaces of scientific disciplines and research fields. This funding instrument was established in the late 1990s as part of the reform of the university funding model when the history based budgeting was replaced by the performance based elements. This is a very selective funding instrument, e.g. only 14 Centres of Excellence were nominated by the Academy of Finland based on peer review for the period of 2014-2017. The funding of Centres of Excellence is coming from the Academy of Finland, industries and

the participating universities. Typically they are joint efforts of cooperating universities and research institutes. Six Centres for the coming four year period are coordinated by the University of Helsinki showing its status as the key world class research university in Finland. Although the funding from the Academy is not very high (about one million Euro per year varying according to the nature of research) the status of a Centre of Excellence is very important as funding is applied from other funders. Most of the Centres are on the fields of natural sciences, technology and medicine. Many of them are connected to the national Strategic Centres for Science, Technology and Innovation (SHOK) instrument, an industry driven and mainly TEKES funded innovation policy instrument promoting to the development of the most strategic industrial clusters of Finland.

Concluding Discussion

Finland is an example of a country where the government has adopted a policy of promoting research excellence by creating a combination of instruments, which simultaneously introduces competition into the system, but keeps the main policy implementation tools in its hands. That is, performance based funding and contracting between the ministry and universities respect institutional autonomy, but force the universities to listen the voice of government. In particular, the government has pushed the

universities to acquire an academic profile that concentrates on their natural academic and regional strengths. Moreover, the renewed research funding mechanisms and programmes offer incentives for universities to move towards excellence and relevance, especially in collaboration with industry. Today, the main potential sources of increased research funding are international, in particular, the European Union research programmes and industrial funding. The structural reform of the Finnish university system has facilitated multi-disciplinarity and cooperation with industry, both at the domestic and international level. All of the described measures are aimed at galvanising the process of creating world-class research universities.

The main obstacles for realisation of the goals of research excellence and linking them to the national, regional and global production and innovation systems can be found in the slowly changing academic values and inwardly oriented academic culture. That is, Finnish universities still suffer from their history as academic ivory towers and their roots being grounded in a heavily controlled higher education system. However, they have started to reform their internal organisations by introducing multi-disciplinarity, by merging small units as well as by reforming their management and leadership models under the new and more flexible framework provided by the new Universities Act.

Centres of Excellence in Research: Norwegian Experiences

Liv Langfeldt, Siri Brorstad Borlaug, Egil Kallerud

Liv Langfeldt: Deputy Head of Research, Nordic Institute for Studies in Innovation, Research and Education

E-mail: liv.langfeldt@nifu.no

Siri Brorstad Borlaug: Researcher, Nordic Institute for Studies in Innovation, Research and Education

Email: siri.borlaug@nifu.no

Egil Kallerud: Senior Researcher, Nordic Institute for Studies in Innovation, Research and Education

E-mail: egil.kallerud@nifu.no

In Norway, explicit policies for “excellence” in research and the introduction of Centres of Excellence (COE) are outcomes of a policy discussion which dates back to the late 1980s, the effects of which on overall research policy had a very limited effect before 2000. Several evaluations of Norwegian research in the 1990s pointed to the relatively “flat” landscape; resources were distributed fairly evenly and few research groups held high international quality. As a response to this, two initiatives for generous, selective funding of the “very best” researchers and research groups were established in the 90s. The first was the “Centre of Advanced Study” (CAS), established in 1992 and modelled on Princeton Centre for Advanced Studies. CAS was, and still is, a small centre providing three small selected research groups the opportunity to devote all their time to basic research for one year. It is administrated and hosted by the Norwegian Academy of Science and Letters. A second initiative, launched in the mid-1990s, was the top-level research programme in medicine and health sciences. The programme – running from 1998 to 2003 – aimed to identify outstanding researchers and offer them generous funding and working conditions for conducting international top-level research. Together, these two initiatives opened up a new track of policy development, legitimising concentration of resources to the best research

groups. The top-level research programme was supplanted by the “Young Excellent Researchers” programme in 2003, which was modelled on its predecessor, but encompassed all academic fields and targeted young researchers at an early stage in their research careers.

These initial developments in excellence policy took place as much in spite of, as in response to, official research policy. That is, distributive and more egalitarian policy objectives remained for long a more pronounced concern than concentration of resources and promoting excellence. When the COE-scheme was initiated in the 1999 White Paper on research, part of the argument was that such schemes had already been successfully introduced in other countries, with a major inspiration being the Danish COE-scheme (started in 1993). In 2002 the Norwegian COE-scheme was launched with an open call for proposals.

COE Policy Objectives, Terms and Funding

The aim of the COE-scheme is to promote cutting edge basic research through long-term, generous funding, strengthen internationalisation of Norwegian research and to foster researcher recruitment. The scheme is an open national programme administered by the Research Council of Norway (RCN) and

currently comprises 21 COEs, all awarded for a 10-year period. Universities, university hospitals, university colleges as well as independent research institutes may apply for COE-grants and act as host institutions for the awarded centres. Moreover, multiple research institutions may join forces in one COE – one as host institution, the others as partners.

Each centre receives a COE-grant of 1 to 1.8 million Euro per year, from a total yearly budget of 33 million Euro (2013). In addition to the COE-grant, COEs receive substantial co-funding from their host institutions, and are relatively successful in obtaining sponsorship from other competitive research programmes. On average, the COE grant makes up about 20 per cent of the total budget of the COEs, while host institutions contribute about a quarter. The terms of the COE scheme stipulate that the RCN and the host institution shall jointly contribute to the resources required for the research at the COEs. In addition, the amount of funding from the two bodies is fixed by contract for the full contract period and does not depend on the amount of other money the COE is able to attract. There are no restrictions on the size of the centres or on the COE's capacity to apply for and receive other grants. The COE-scheme is open to all disciplines and research groups, and has no thematic priorities. These general terms are seen as highly attractive among Norwegian scientists, and being awarded this status is generally regarded as very prestigious.

Selection Based on International Peer Review

The selection of COEs is based on open calls for proposals and a two-stage review process by international expert panels organised by the RCN. So far there has been a new call for proposals every fifth year. For the first call in 2002, the RCN received 129 proposals, with 40 being selected for the second stage of the peer review process and 13 COEs eventually awarded. For the third call in 2012, the RCN

received 139 proposals, of which 29 were selected for the second stage of the peer review process, and 13 new COEs were awarded, replacing the 13 first centres whose 10-year period expired in 2012. A large majority of the COEs are located at the three largest universities in Norway: 26 of 34 are hosted by the University of Oslo, the Norwegian University of Science and Technology and the University of Bergen.

The COE-status and funding is provided for a 5+5 year period, with prolongation for the second 5-year period being contingent on the results of a mid-term evaluation by international review panels. So far, all selected COEs have passed the mid-term evaluation. The evaluation investigates not only the scientific quality of the centres, but also organisational issues concerning collaboration within the COE, recruitment, the relationship between the host and the centre, and between the centre and adjacent environments.

Impact on Research and Research Strategy

Given the entrenched egalitarian norms and structures of Norwegian research, the COE-scheme represents something new. That is, the long-term and lump-sum funding model provides conducive conditions for attracting highly qualified scholars and building strong research communities. Moreover, the scheme has enhanced collaboration across research fields; the centres are interdisciplinary and co-location of involved research groups seems to enhance synergies and sustain the development of a dynamic and collaborative research environment.

The COE-scheme has also increased national competition, having raised ambition and aspiration in Norwegian research, both for the involved groups and for others that strive to qualify for the scheme. In an otherwise egalitarian research landscape, the COE-scheme has created research peaks, having legitimised concentration of research

resources for selected research groups by adhering to the academic norms of excellence. The COE-scheme is considered to have substantially added value and produced lasting effects on Norwegian research. It has been particularly successful in terms of promoting researcher recruitment and strengthening the internationalisation of Norwegian research. This has been achieved through sponsoring international projects, senior researchers in part-time positions, guest researchers, and by providing increased funds for travel. The international networks have been, furthermore, strengthened by PhD students and Postdocs who pursue an academic career abroad while retaining strong ties to Norway. To a certain extent the COE scheme has also increased national collaboration, particularly in those fields where there is more than one such centre.

More generally, the COEs are reported to have enhanced universities' ability to make strategic priorities and organise research, and to sustain stronger scholarly leadership. That is, the centres imply both new leadership challenges and more leadership positions. Moreover, their organisation has contributed to a fruitful discussion about leadership and personnel responsibilities in universities across Norway.

Implications and Challenges

When the COE-scheme was established, it gained wide support and was met with less resistance than could have been expected, and it is now strongly embedded in Norwegian research policy. Nevertheless, criticism has been voiced that funding opportunities for single researchers and small groups have decreased. There has also been some criticism of the COE selection process, seen to be to some research areas' disfavour and to lack transparency.

In general, the COEs have more external funding and better financial terms than most other research groups. Moreover, the institutional co-funding implies that there is

harder competition for the host institution's internal funds and in some cases reduced resources for other research groups. Analyses of personnel resources in the relevant research areas show that the COEs employ a large share of the doctoral students in many areas, indicating both a current impact on resource allocations, and a potential for lasting effects in the research field. They also account for a large part of senior and researcher positions in several fields. In places where talent is a scarce resource, subfields without COEs are in danger of being 'impoverished'. Still, a substantial part of researchers are attracted from abroad, and in some cases the COEs are able to attract individuals who otherwise would have chosen a non-academic career; recruitment is not always a one-country zero-sum game within academia.

In addition to enhancing research excellence, the COE-scheme has an important organisational aspect. That is, a temporary unit with specific organisational structures presents challenges for the host universities and departments – in terms of handling and institutionalising a relatively powerful research unit, positioned somewhat outside of the traditional structures. At the same time, these traditional structures present challenges for the centres; COEs have to find their place and create a new organisation in an environment that, to some extent, resists such initiatives. After ten years of experience, we might conclude that the centres have shaken up some of the sedimentary structures of universities, as they have had to meet needs for appropriate administrative procedures and strategies to cater for and integrate temporary research units.

Among the university leadership, the COEs – and excellence more generally – have been given high priority. The COEs require much extra organisation and administration, but the host institutions still welcome them and believe having them is worth the extra effort. They provide additional income by attracting other external grants and they enhance the status of the university. Nevertheless, there are

several examples of strained relationships between centres and their local environment. This may be caused by ‘buy-out’ of key personnel from teaching duties, by centres being perceived to unsettle the balance between scholarly priorities, or more generally by personal attitudes, relationships and limited leadership abilities. Notably, several COEs have responded to criticism that they were isolated from the activities of the regular

university units, by having taken measures to ensure better anchoring of the centre within the host institution, both during and after the COE-period. Moreover, centres that are well integrated into their local research environment during the COE-period will have a better chance to continue activities and maintain competencies within their host institutions after the expiry of the COE-period.

Leading Universities in Russia: From teaChing to Research Excellence

Maria Yudkevich

Vice-rector, National University Higher School of Economics

Email: yudkevich@hse.ru

For the Russian higher education system, the last decade has been not only a time of far-reaching major reforms (such as the introduction of a new university admissions system based on national unified test examination (USE) obligatory for all high school graduates), but also one pertaining to the realization of several government excellence initiatives aimed at supporting and developing leading Russian universities. In fact, these government programs influenced the higher education landscape of the country a great deal. For, while they did not help much with solving the problem of a preponderance of weak higher education institutions in the sector, they certainly allowed a fair number of rather good and promising universities to improve significantly the quality of their educational programs and to some extent, their research capacity. Three main programs have been launched in the last eight years: innovative educational projects, development and support for national research universities, and most recently, the program for improving global competitiveness, all of which have been underpinned by the same basic principles, which has resulted in common inefficiencies. All three programs were initiated by the state and were run under the assumption that there would be little, if any, input from the business sector, both in terms of financial resources or direct participation through links between the academic sector and industry.

Innovative Educational Projects

In early 2006, the Ministry for Education announced two rounds of competition for the Innovative Educational Projects. The main

purpose of this program was to give selected universities incentives and resources to develop high-quality educational programs (and significantly improve existing ones) both at undergraduate and graduate level. Creating Master's level programs was an outstanding challenge for many universities and this project was aimed at helping them to build sound master program curricula under the new institutional rules (Russia joined the Bologna process in 2003). Since it was clear that the universities lacked people with advanced training in many disciplines (e.g. social sciences), important emphasis was placed on providing investment in human capital through various forms of training activities and advanced courses for faculty members.

Each university submitted an application with detailed description of the proposed activities and expected results. In the first round, the ministry received 200 applications from which 17 winners were selected by an executive committee that included government officials as well as researchers and people from Russian business community. The successful bidders were awarded financial support to the tune of 20 billion Rub (660 million USD) for two years in total. In the second round (organized half a year later), there were 40 winners from 267 applications, who also received support of 20 billion Rub, about one third of those chosen being located in Moscow. In sum, the aim of this program was to focus on the educational sphere as a stepping-stone to improving teaching and research, but it did not set any ambitious goals relating to the latter. That is, state money was to be distributed for the following activities: training of faculty and

researchers, acquisition of research equipment, and development of innovative educational programs. To assure that money would not be just “eaten up” by the universities in their general budgets, they were prohibited from spending money on faculty staff salaries.

It is hard to identify the general impact of this initiative on these universities and on the Russian higher education system in general, because no rigorous analysis was carried out by the end of the program. Until the very last moment participating universities believed (and that belief has been based on some unofficial information coming from the Ministry of Education) that this program would be extended for at least several years more. However, it has been terminated without any prolongation and many universities had to stop abruptly the development programs that they had started, since the short-term financial support did not bring (with rare exceptions) secure financial sustainability for launched projects. The only objective fact that sheds some light on the program impact is that 25 out of the 29 universities that were awarded the status of national research university were recipients of innovative educational project.

National Research Universities Program

The aim of the next strategic government program was to contribute to the dynamic development of research and technology in Russia by providing program-based financial support to a number of leading universities. These universities were awarded with the status of national research university and were supposed to improve significantly in terms of the quality of their human capital and infrastructure as well as increase their impact and visibility in the academic market. The first two NRUs were created by a decree of president Medvedev in October 2008, namely, the National Research Nuclear University and Moscow Engineering and Physics University. However, the majority of universities were

selected for this status on a competitive basis, with the selection process being organized in two rounds that resulted in 27 winners in total (with 12 universities being awarded this status in 2009 and 15 in 2010), with the additional to aforementioned institutions.

They submitted their proposals in the form of five year development programs and in accordance with the requirements of the structure and content, each had six main sections: (1) a list and brief description of university priority areas in science and education (justified by the objective results of educational, research and innovative activities for the past three years); (2) program goals and objectives; (3) a detailed list of planned activities; (4) justification for funding; (5) the governance model; and (6) description of the expected socioeconomic results of program implementation for the science, education and economy of the country. An important part of each program was a university commitment to some key indicators of program progress and success. The funding mechanism takes the form of direct subsidies transferred in tranches, delivering of each successive one being subject to the results of previous reporting. The program terms and conditions strictly determine how money can be spent and again, and no funds can be distributed directly for salaries (neither for teachers nor for researchers).

An important feature of the program is that it is formally designed to support research and education not across the whole university, but just in the priority areas. This creates at least two sorts of inefficiency: first, some universities have put a lot effort into justifying spending program resources to other areas at the expense of the designated ones and to their detriment have occasionally succeeded. Second, it doesn't require performance indicators to be calculated in clear and transparent way and thus has given the universities the opportunity to “play with numbers”. This is not the only

problem associated with the design of the key indicators, which are supposed to measure success in education activity, research performance, international recognition, and financial sustainability. Many experts have expressed various concerns about them, such as their being hard to very verify (e.g. the numbers of students that start their career in the focal subject areas). Moreover, because the directives of the indicators say nothing precise about the academic progress of an institution, the program has become associated with improper incentives that lower quality. Finally, some indicators simply do not work effectively due to the lack of clarity in relation to expected academic standards (e.g. some indicators do not make a distinction between international peer-review journals and domestic ones when estimating total research productivity of an institution).

Even though the program of support for national research universities, obviously, has had some limitations, it has had an important impact on the higher education sector landscape in Russia. However, there is still little integration of teaching and research within this program, and some disciplines are favored over others. That is, there is some bias toward technical institutions: 29 universities in total received NRU status in 2009-2010, including 17 technical universities (59%), 9 classical universities (31%), 1 social science university, 1 medical school, and one academic center under the Russian Academy of Science. Moreover, eleven of the selected universities are based in Moscow.

International Competitiveness Program

At the end of year 2012, the Russian president Vladimir Putin signed a decree with a target that at least five Russian universities by 2020 should be in the top 100 of world university rankings. While such a target seems probably too ambitious, it clearly indicates the priorities articulated by the state and such

values are also clear (at least to some extent) to the professoriate. Regarding this, according to the recent survey of the academic profession almost 90% of Russian faculty in public universities believes that strengthening the nation's capacity to compete internationally should be among the top priorities for higher education in the country.

In the mid-June this year, about 50 universities submitted their application for the global competitiveness program and the successful candidates will be selected after evaluation by international and Russian experts. Until now, there has been no information as to how many universities will be chosen. However, the total financial support is already determined for the year 2013, being approximately 9 billion Rub (300 million USD) and this money will be distributed disproportionately, according to the quality of applications and commitments that universities are ready to take. As for the future years, there is still no decision about the amount of financial support that will be made available. The rectors of universities chosen for support within this program will be personally responsible for the program implementation and results. Also, they are about to lose their unlimited power, for each university have an external board that will power over the rector regarding the most important decisions. This board will also include international colleagues so as to introduce worldly experience and vision into the system.

Selection is based on university commitment to ambitious goals that university is targeting to achieve within several consequent years: position (accurately up to 50 positions) in leading global universities rankings (for universities and educational programs); the number of articles in the Web of Science and Scopus per faculty member; the average citation index per faculty member calculated from the total number of articles in the Web of Science and Scopus; proportion of international faculty; the proportion of international students studying on the

university's main educational programs; the share of revenue from non-budgetary sources in relation to total university revenue; average USE scores of students admitted to the university for a full-time bachelor's degree and specialist studies financed by the federal government.

Some experts have expressed concerns that the design of the indicator set creates incentives for quick results, that is, publishing into low-tier journals to achieve quantitative targets and bringing in weak international "academic tourists". It has also been argued that the criteria discriminate against humanities in that journals are not the main places to publish scholarly work. In sum, there is some mismatch between the targeted goals of this program and the national priority of creating competitive universities in Russia not only in a limited numbers of disciplines (such as technical sciences) but across the whole spectrum. While it's too early to discuss any possible results of this program, one can see that internationalization and research support are now the key projected milestones that were largely ignored under the previous initiatives. Whether those universities, with an almost-zero level of internationalization and historically-rooted separation from basic research, will be able to succeed, is still an open question.

Conclusion

The three programs described above aimed at achieving excellence have some features in common. In all cases the choice of the recipients for funding has been based on competitive grounds that assume the integral development of programs and some clear commitment from the university to achieve their set targets. However, within each initiative there was no long-term commitment for financial support from the state, which clearly created obstacles for long-term investment in relation to such matters as human capital (including hiring international faculty for tenure and tenure-track positions) and the unintended incentive of obtaining quick returns on short-term goals. There is also a lack of general vision of what universities should be striving to achieve as this is buried in tens of performance indicators and extensive paper reporting. As a consequence, there is a little understanding of what the exact overall impact the realization of these programs by the chosen institutions should have on the higher education system in general. Nevertheless, improvement of quality of leading Russian universities is evidently apparent and this is clearly as a consequence of the state policy of continuous support in recent years.

EU's Horizon 2020 Plans to Open up World-Class Research Infrastructures to the World

Queenie (Kwan Heung) Lam and Christof Schöch

Queenie (Kwan Heung) Lam: Project Officer, Academic Cooperation Association, Belgium

Email: queenie.lam@aca-secretariat.be;

Christof Schöch: Researcher, Digital Research Infrastructure for the Arts and Humanities, University of Wuerzburg, Germany

Email: christof.schoech@uni-wuerzburg.de

The European Context

When talking about the European Union's (EU) policies and initiatives, one must bear in mind that the EU is not one country, but 28 very different countries that are moving at very different pace and sometimes in different directions. To complicate the situation further, the EU is governed by means of an "Open Method of Coordination" in areas such as education and research, meaning that the member states' cooperation is voluntary. With this background knowledge, one can better understand why the EU appears to be herding cats and cows whenever a common strategy or structure is introduced. It also helps explain why "European added value" matters so much for the EU as a justification for its intervention in certain areas, such as education and research, which remain largely the competence of national governments.

However, too much emphasis of "European added value" and European competitiveness as a union, although necessary for creating internal cohesion within the EU, may wrongly convey a Eurocentric message when it comes to cooperation with non-European countries. This awkward situation in forming global partnerships will hopefully be changed with the opening up of the EU's funding programmes to the world in 2014.

What's in it for Third Countries in the New EU Funding Programmes for Education and Research

Perhaps it is misleading to say that the EU's funding programmes will be opened up to the world in 2014, because in some ways, they are already open. The EU has been very generous in funding third country students to study in the EU through its education and training funding programmes, such as the Erasmus Mundus Programme. Moreover, the Jean Monnet Programme has been supporting third-country higher education institutions in the offering of EU-related courses. In addition, the Marie Curie Actions and other funding programmes in the framework programmes for research, currently being the Seventh Framework Programme (FP7), have also funded large numbers of third country researchers for carrying out their scientific work in Europe. For example, China (one of the eight countries participating most in FP7) is reported to have 285 participants receiving 26.3 million Euro in FP7, as well as 412 researchers and 171 institutions receiving a total value of 12.3 million Euro through the Marie Curie Actions. Clearly, non-EU students and researchers who have a European orientation in their study choices or research interests have already been benefiting from the EU's financial support.

The opening up of EU funding programmes in 2014 is not so much about the

opportunity for third country partners to access EU funding, but the mutuality in the way they participate. In the proposed Horizon 2020, which will replace FP7 in 2014, third country partners can fully participate in EU programmes, meaning that they will have the right to set the agenda of the research, but in return, they have to share the responsibility of co-funding the research projects. Similarly, Erasmus for All, the proposed EU funding programme for education, culture, youth and sport, due to be launched in 2014, seeks to address the imbalance of student flows between Europe and the rest of the world (Asia, in particular). The EU's flagship mobility programme, Erasmus, which has been restricted to intra-European mobility, will be opened up to the world, meaning that European students can use the EU funding for study abroad or placement in third countries.

Both Erasmus for All and Horizon 2020 are still in the making. Until now, the exact rules of the game as well as the precise budget allocation are still under negotiation. Erasmus for All is to be renamed as Erasmus+. Nevertheless, the general policy direction of "opening up Europe to the rest of the world" has more or less been set by now.

The EU's Research Excellence Initiatives and their Role in the New Policy Framework

Opening up is one thing; being attractive is another. No doubt, high profile funding schemes, e.g. Marie Curie Actions, are attracting talents and will continue to do so. But what else can the EU offer to the rest of the world to attract their full participation, apart from funding? To answer this question, we may find some hints in the internationalisation communication 'Enhancing and focusing EU international cooperation in research and innovation: A strategic approach' released by the European Commission in September 2012. In this communication, the Commission has laid its eyes on research infrastructures: "The

Research Infrastructures activity will have a specific focus on international cooperation. Its e-Infrastructures component has an inherent international dimension by supporting collaboration through digital means." (p. 4)

Since 2002, with the inauguration of the European Strategy Forum on Research Infrastructures (ESFRI), the EU has been investing systematically in the construction of world-class research infrastructures (RIs). These RIs "may be 'single-sited' (a single resource at a single location), 'distributed' (a network of distributed resources), or 'virtual' (the service is provided electronically)." In other words, a RI could either be an actual large laboratory, like CERN (Conseil Européen pour la Recherche Nucléaire), where talented researchers from all over the world meet face-to-face to conduct top-level research together; or it could be a very large database connecting many different resources and hosted in the cloud to be accessible to a global scientific community; or it could consist of networks of facilities and resources accessible to scientists working in the same fields. RIs of any of these types are meant to be excellent in nature, European in scale and global in orientation. Ultimately, they are expected to support the creation of a competitive and attractive European Research Area, by 2014.

Indeed, RIs have great potential to demonstrate the research excellence of the EU in different disciplines and thus in attracting intellectual input from foreign talent or even foreign investment for co-development and co-funding. However, these large infrastructures, which are meant to be big and attractive, often turn out to be very complicated and hard to understand for people who are unfamiliar with how Europe works.

Making Sense of the EU's RIs

The easiest way to present the EU's RIs is perhaps by describing them as the "CERN" of different disciplines, ranging from social sciences and humanities to astronomy,

genomics through to nanotechnologies. These RIs provide technological solutions common to a specific research field, they allow the exchange and reuse of resources, such as research data or software across all members and they can provide a large rich network of people with a wide range of skills and experiences, as well as training opportunities for early-stage researchers. According to ESFRI, which provides policy support for RIs at the EU level, of the 70 European research infrastructure networks, 48 European RIs have been supported by the EU's FP7. The total financial contribution by the EU to those projects amounts to around 700 million Euro. It must be noted, however, that EU funding for the RIs varies to a great extent and that national funding from participating countries may constitute a larger share of the funding of RIs than EU funding, especially after an initial phase during which funding comes largely from the EU.

While RIs provide many affordances to researchers, they are also not just expensive, but also large in scale and complex in structure. This is an inevitable result of pooling financial resources and talents of a given discipline from all over Europe to achieve economies of scale and create a critical mass that no single European country alone could achieve. Over complexity in the organisation of pan-European RIs in compliance with the very diverse national legal frameworks has consumed vast amounts of resources and energy in the networks, and in some cases, led to deadlocks in their development. The EU's solution for this has been to grant these pan-European RIs a unique European legal status called European Research Infrastructure Consortium (ERIC), a construct which came into force in 2009. Two mature RIs have been able to simplify their governance structure by obtaining the ERIC status, and seven more RIs are in the queue to obtain the same status.

Europe is very diverse, which is both a blessing and a stumbling block. On the one

hand, diversity, and more importantly, the respect for it have allowed Europe to retain its cultural and linguistic richness. On the other hand, this may result in much wasted time and energy whilst negotiating a common ground. As a result, the construction of RIs is not always as smooth and fast as expected. In fact, many RIs are still under preparation or are still to be implemented. A report on the implementation of RIs released by ESFRI in November 2012 concludes that 27 RIs are currently under implementation, and one or two more will be ready for implementation in 2015. This accounts for around 60% of the 48 pan-European RIs, which also means that 40% of the RIs still have a long way to go until they can become fully operative.

Judging from the proposed Horizon 2020 and the accompanying internationalisation communication, it seems that the EU considers that the time is ripe for opening up some of the RIs, especially e-infrastructures, to the rest of the world for co-development. How exactly this can be done remains unknown, but we can perhaps speculate a little based on one of the e-infrastructures, namely the "Digital Research Infrastructure for the Arts and Humanities" (DARIAH).

Imagining the Opening Up of an e-Infrastructure to China

DARIAH, as its name suggests, is one of the few existing digital research infrastructures aimed at researchers in the arts and humanities. It aims to enable researchers in fields, such as history, literary studies, art history or musicology, to conduct their research using innovative digital methods of discovering, accessing and analysing relevant data, such as digital representations of manuscripts, large collections of textual data or image databases. DARIAH is an infrastructure in three ways: it provides various types of technical solutions for collaborative research; it makes resources for and information about digitally-enabled research in the humanities accessible; and it is

actively building a community of researchers with the skills to make the best use of the tools and resources it provides.

Opening up this infrastructure to researchers beyond Europe can happen in several ways. Because DARIAH strives to make tools, resources and information as openly available as possible, many of its offerings are already available to anyone interested, via the internet. But for non-European researchers, and especially researchers from China or Asia, in general, to participate actively in a research infrastructure would mean much more. On a technical level, it would mean formulating requirements for work with materials in non-European languages, for example, full Unicode support for Chinese characters, additional features for transliterations, and editors with right-to-left input support for historical texts. Providing such functionality, however, would be easy compared to the administrative challenges: how could a non-EU-country become a member of an ERIC? What status should such a member have?

These administrative issues are already being addressed and the opportunities afforded by European-Asian collaboration would make finding effective solutions to them worthwhile: For many centuries, European and Asian cultures have been interacting on many levels, such as politics, philosophy, literature, and the arts, if researchers were able to access relevant materials from both cultures in a common though flexible technological framework, this would undoubtedly enrich comparative studies of these cultures. The travel of ideas and their transformation and adaptation in the process could be studied and such research may show that the distance between Europe and Asia is

smaller than it appears. Moreover, it may encourage us to think hard about how we can work together in research, and how digital research infrastructures could enable us to explore further this shared ground.

The Future is where Excellence Meets on Common Ground

In May 2012, the EU and China established the EU-China High Level People-to-People Dialogue (HPPD). This was followed by an EU-China Summit for the creation of a new High level Dialogue on Innovation Cooperation in September 2012 and the launch of an EU-China Higher Education Platform for Cooperation and Exchange (HEPCE), in April 2013. These initiatives have indicated the political will from both sides to cooperate on higher education and research matters. The immediate next questions would appear to be with whom to cooperate and in what ways and what domains to work together. Some years ago, universities may have simply gone for the top ranked universities of a given ranking and worked together in the most fashionable fields, be they relevant to the local context or not. Today, more and more thought is given to the diversity of excellence, and so the search for common ground to build the different clusters of excellence has become fundamental.

At the EU level, we can already see this logic at work in the selection and support given to the pan-European RIs in different disciplines. Whether the same logic can be extended to a global level would, however, require much more openness to embrace diversity and the discovery of a convincing common ground, or what are often called the grand challenges.