Economic Factors Underpinning Constraints in Indonesia's Knowledge Sector

FINAL REPORT[1]

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Executive Summary

This study investigates whether economic incentives play a significant role in explaining the low quality of Indonesian policy research. In order to gain a better understanding of the dimensions of the market for research, the economic aspects covered in this study include both the demand and supply sides. The supply side is limited to domestic research organizations and Indonesian researchers working in domestic research organizations, while the demand side consists of parties who request and/or use the research results. Twenty supplier and seven user organizations were interviewed, a total of 43 interviews.

Demand issues
There are two types of research products in demand in Indonesia. The first is policy briefs, demanded by high-ranking government officials that highly value research. This demand, however, is unable to be fulfilled by the research and development office and, as such, the officials turn to donors/MFIs. Therefore, the demand for policy briefs is largely supplied by these agencies. Note, however, that policy briefs are ideally based on high quality applied knowledge or base knowledge research. In the Indonesian case, the general lack of quality at the applied or base levels implies that high quality researchers at the donors/MFIs, who are ideally conducting the applied and base knowledge research, end up writing policy briefs.

The second type of research is applied knowledge research, demanded to a larger extent by donors/MFIs and government research and development office, and to a lesser extent by high-ranking government officials. In general, our respondents believe that there is already a large quantity of applied knowledge research, but that quality is sorely lacking.

The applied knowledge research demanded by donors/MFIs and the government differs on several fronts. First, the former usually demand high quality research products that will directly influence the activities under which the research is undertaken. The latter, meanwhile, generally does not put too much emphasis on quality because contracts often go to suppliers that can provide the largest kickback or provide the research results needed to justify a predetermined set of policies. In effect, there is low appreciation for quality research among low- and mid-level government officials. Secondly, donors/MFIs have a substantial and flexible budget for research, while the government's budget is relatively small and inflexible.

The final notable issue is related to the government's in-house research capability. The vast majority of our respondents argue that the task of a government research and development office is to manage and contract out research, not to undertake research. Several arguments are advanced in support of this view. First, the government budgeting process and human resource practices are not conducive to building a critical mass in any government research and development office. Second, there are not enough qualified staff to undertake high quality research, and building enough expertise would be less efficient than building the capacity to properly manage research and rely on external research suppliers.

Constraints facing research organizations
Despite being heavily reliant on short-term research projects, the non-government research organizations in our sample appear to be able to survive and are in no danger of closing down. However, they cannot produce high quality research—which usually takes longer than four to six months—because of the pressing need to hunt for research projects that will keep the organization afloat. And since the research income is either insufficient to build an endowment or used for other expenses (such as capital expenses), these research organizations will continue to rely on short-term research projects. More worryingly, some organizations have begun to specialize on government research contracts because of the relatively low effort required to complete the contracts. As such, these organizations are producing a large number of low quality short-term research products.

Constraints facing individual researchers

There are two economic constraints that impede researchers' ability to produce high quality research. The first is that a substantial component of their take home pay is variable. The level of variability is positively correlated with the number of concurrent research projects, time for non-research activities, and income from non-research activities. At the same time, variability is negatively correlated with engagement in uncommissioned research, length of a research project, and academic publications. Given that high quality research usually requires a significant amount of investment with regards to time and focus, it appears that a salary structure that has a large variable component is an impediment to good quality research.

The second constraint pertains to researchers earning a fixed take home pay. These researchers are working in government agencies, the private sector, and think tanks. Let us begin with government researchers. Although taking home a fixed amount of money each month, the amount is very small compared to researchers from other organizations—around Rp. 4 million per month, compared to the average take home pay of non-government researchers of Rp. 28 million per month. In order to supplement these small amounts, many government researchers are either teaching or getting involved in research projects that are generally low quality and short-term. Those responsible for procuring external research services ask for kickbacks. More senior staff are busy taking on other money generating responsibilities, such as becoming commissioners at state-owned enterprises. In short, none of those activities are related to producing good quality research.

The second group that earns a fixed income is think tank and private sector researchers. Think tanks in Indonesia are managed in a way that results in the researchers taking on a large number of relatively short-term research projects at the same time. As such, think tank researchers do not have enough opportunity to do uncommissioned research or publish in academic outlets, despite spending almost all of their time conducting research. Private sector researchers also experience these conditions, although to a lesser extent because private research firms usually have a smaller share of non-research staff.

On the other hand, non-economic constraints include low education quality in Indonesian universities; the lack of environment that promotes serious high quality research including the difficulty in getting one's work peer-reviewed, a lack of access to the literature, and a lack of opportunity to exchange ideas; the lack of mentorship from more senior researchers and lack of capacity building opportunities, where researchers can upgrade their skills; and the lack of research and travel funds.

I. Introduction

High quality domestic policy research is an important ingredient in the development of a country's policy alternatives and eventual choice. By most measures, the quality of domestic policy research in Indonesia is low. When measured through the number of published articles in international peer-reviewed journals indexed by Social Sciences Citation Index (SSCI), Figure 1 shows that only about 12 percent of social science research publications on Indonesia is undertaken by authors based in the country.[2] This rate is the lowest compared to other developing countries shown in Figure I.1, where the average share of research done by domestic-based researchers is about 28 percent.

Figure I.1. Share of Domestic Research (%)
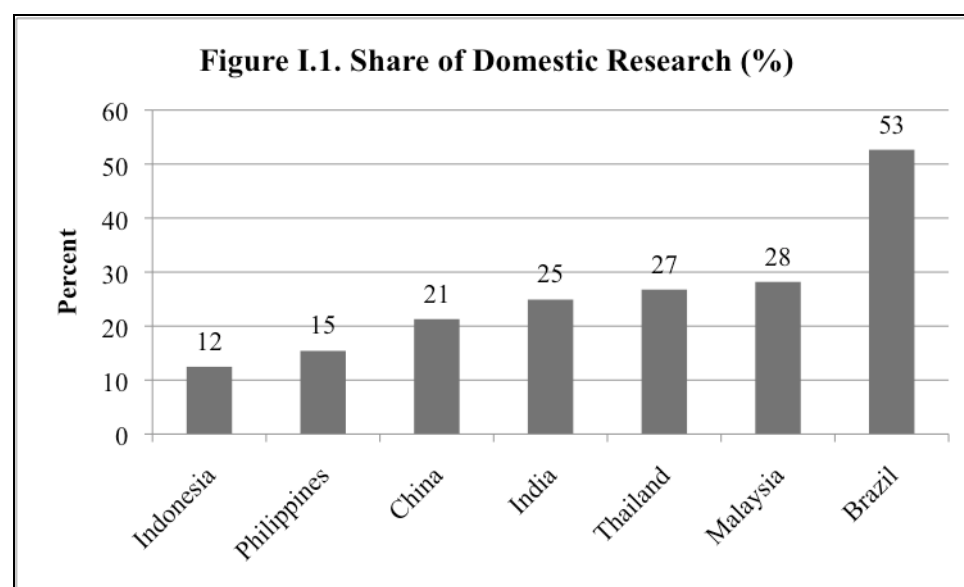
Note: The numbers show the share of published research on a particular country done by researchers based in the country. As an example, the figure shows that 21 percent of research done on China is done by Chinese-based researchers.
Source: Social Sciences Citation Index (SSCI) database, 1956 to 2011.

The second measurement of the quality of Indonesian social science research comes from examining the authors. The share in Figure I.1 is only calculated based on the place of residence of the author, not his or her nationality. Therefore, research on Indonesia done by Indonesians might actually be higher if many of the Indonesian authors live outside the country. Similarly, the figure might be lower if foreigners residing in Indonesia are conducting much of the research. In the Indonesian case, SSCI shows that only three Indonesians are listed in the top 25 researchers on Indonesia (eight in the top 50; 16 in the top

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[2] SSCI indexes articles published in 2,474 social science journals across 50 disciplines. SSCI is owned by Thomson Reuters. See http://thomsonreuters.com/products_services/science/science_products/a-z/social_sciences_citation_index/ for more information.

100). Therefore, the low quality of Indonesian social science research as shown in Figure I.1 appears to be accurate.

In contrast to the low quality, there appears to be no problem with the *quantity* of policy research in Indonesia. As anecdotal evidence, Universitas Indonesia has produced a minimum of 320 social science research products between 2001 and 2010. However, SSCI only records 83 journal articles published by UI-based authors in the period of 2001 to 2011.

Although it is well-known that the quality of domestic policy research in Indonesia is low, there are not many research reports on the issue. McCarthy and Ibrahim (2010) state that the number of researchers who understand the basics of research methodology, have up to date understanding of theory, and can produce well-written analysis is insufficient. A number of factors are seen as contributing to the low quality of domestic research. Nielsen (n.d.) states that Indonesia severely lags behind other countries in terms of gross expenditure on research and development. McCarthy and Ibrahim (2010) mention systemic problems with the lack of environment conducive to research, in addition to the lack of funding, time, skills, and incentives for researchers to engage in high quality research.

This study investigates whether economic incentives play a significant role in explaining the low quality of Indonesian policy research. The research activities considered in this study are limited to socio-economic and political research whose products could influence policy formulation. Therefore, the term "research" in this report strictly concerns research only in this narrow area. Our research builds upon the studies by McCarthy and Ibrahim (2010) and Sherlock (2010) by analyzing a larger sample and taking into account institutional heterogeneity by including analysis at the institutional as well as the individual level, and by including the local government and private sector in our analysis. This study also complements existing studies by providing estimates of actual values and numbers related to the economics of knowledge sector.

In order to gain a better understanding of the dimensions of the market for research, the economic aspects covered in this study include both the demand and supply sides. The supply side is limited to work done in domestic research organizations, while the demand side consists of parties who request and/or use the research results.

For the supply side, the study is interested in understanding the economic incentives and constraints at both the level of individual researcher and at the organizational level. The former includes understanding the career paths of Indonesian researchers and career

alternatives, while the latter includes understanding the management, long-term plans, operations, and challenges to the sustainability of the research organizations.

In order to understand the nature of demand for domestic research in Indonesia, the study examines topics ranging from measuring the level of research demand, understanding the type of research products demanded, estimating the resources spent to acquire research products, and analyzing the nature of competition between domestic and foreign researchers.

The rest of this report contains the following. The next section describes the study methodology. Section III identifies the demand side of the research market in Indonesia, and Section IV discusses the supply side. The penultimate section brings both the demand and supply together and analyzes the economic constraints in the research sector. The final section provides policy recommendations.

II. Methodology

The general approach in this study is to conduct structured qualitative interviews with both the research suppliers and users. While some quantitative analysis can be conducted using information gathered in the interviews, a comprehensive quantitative analysis using any available nationally representative surveys in Indonesia could not be undertaken. Researchers only make up a very small proportion of workers so no statistically meaningful information can be extracted from national statistical surveys.[3]

Identifying the demand and supply sides of the research market in Indonesia

Based on literature review and interviews with several individuals in the research market, there are five types of domestic organizations that supply research. The organizations are university-based research institutes; research and development offices at government ministries, including specialized agencies; non-governmental organizations; think tanks; and private consulting firms. The research users, on the other hand, consist of donors, multilateral financial institutions (MFIs), and the central and local governments. In addition to visiting the supplier and user organizations, the study provides additional insights by interviewing individuals who managed research organizations that have collapsed or became dormant.

After identifying different supplier organizations and users, an interview list was created with four categories: individual researchers; managers of research organizations (institutional

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[3] As an example, the 2006 National Labor Force Survey only has one respondent working in the social and humanities research sector, out of the total sample size of more than 117,000 workers.

suppliers); managers of donor-funded programs and upper echelon government officials (users); and special respondents. Details of each category are as follows:

Individual researchers. In order for the interview results to be broadly representative, two to three researchers were sampled from each type of organization. In addition, the set of individuals from each type of organization was comprised of researchers with varying degrees of experience, ranging from junior, mid-level, to senior.

Research organizations. One private consulting firm and two organizations from each of the other types of supplier were interviewed. The reason for choosing only one consulting firm is that the number of private domestic consulting firms with a strong policy orientation operating in Indonesia is small.

User organizations. The target was to interview representative donor organizations with substantial operations in Indonesia. In addition, interviews were conducted with senior officials from both central and local government.

Special respondents. Individuals included in this category are former researchers who have stopped conducting research and managers of research organizations that have become dormant. Senior individuals who could provide a broad overview of the research market, including the historical and current trends and challenges, were also interviewed.

Research instruments

The research instruments used were a list of structured in-depth interview topics for each respondent category, except special interviews where we discussed broad-ranging topics. Specifically for the users, there were specific questions for government and donors in addition to the list of general questions asked to both user types. The main topics discussed with each respondent category were as follows.

Discussion Topics with Individual Researchers
- Career objectives, career progression, and future plans.
- Work experience.
- Research practices.
- Earnings and opportunity costs.
- The nature of competition among policy researchers.

Discussion Topics with Senior Managers of Research Organizations

- Research output and pricing of research output.

- Experience in acquiring projects, including identifying competitors.

- Human resources/recruitment practices.

- Funding structure.

- Long-term plans and survival strategies.

Discussion Topics with End Users

- Demand for research products, including quantity and pricing.

- Conducting research internally versus contracting external research.

- Project procurement practices.

- Differences between Indonesian and international research outputs.

List of Respondents

After completing the category of respondents, the interview list was constructed based on personal contacts or at the most third-degree connections suggested during test interviews.[4] There was an emphasis on personal contacts for interviews because of the sensitive nature of some of the information gathered. Visiting a random set of researchers was judged unlikely to be successful because the information gathered would be likely to be superficial at best and, at worst, obvious misinformation. Respondents were comprised of researchers and research organizations in economics and political science.

A total of 27 organizations (20 suppliers and seven users) were included in the study (Appendix 1). In some cases, there were overlaps between the users and suppliers of research, for example, the World Bank uses the results of contracted research activities and at the same time provides policy advice to government. The names of individuals who were interviewed are not included for privacy reasons. In total, 43 interviews were conducted.

Caveat

Despite trying to portray a representative view of the users and suppliers of policy research, this study has three limitations. First, the sample of supplier organizations and individuals is very likely to consist only of those in the top of the distribution of research suppliers in Indonesia. All respondents reside in Java; most in Jakarta and Bandung, a few in Central Java.

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[4] The degree of connections is calculated from the number of people that we do not personally know before we arrive at a particular respondent. As an example, a second-degree connection implies that the individual is the friend of our personal contact, who is the first-degree connection.

Given that the portrait of research suppliers in this study does not present the complete picture of research suppliers in Indonesia, any supply-side problems that are identified in this study are likely to be more severe in the middle and bottom of the distribution of research suppliers..

The second limitation is related to the small sample size. Although average values appear to be reasonable, every set of estimate has a large variance due to the small sample size. The final limitation is also related to the small sample size. Therefore, although this study is able to provide a picture of the *average* condition of the research market, there are heterogeneities in the picture that cannot be addressed. As an example, Section III claims that research departments in the government ministries do not have a strong research capability. This would be true on the average, although a number of government ministries do have a strong research capability. Similarly, the argument that donors and MFIs put a lot of emphasis on research quality would be true in general, despite the fact that there are donor agencies that do not care too much about quality. The small sample size in this study does not allow a satisfactory discussion of heterogeneities.

III. The Demand for Policy Research in Indonesia

The main users of research are the government, at both central and local levels, and donors/MFIs. In this section, all interview results with all three respondent categories are used to construct the profile of demand for research by the government and by donors/MFIs.

a. Product Range

There are three varieties of knowledge products in the socio-economic policy environment, starting with an underlying foundation of **base knowledge**. These are long-term research products and typically contained in peer-reviewed publications. These products are generally not directly usable for policy decision-making. The main purpose of engaging in base knowledge research is to contribute to the body of knowledge. As such, base knowledge research publication is the main indicator of the credibility and skills of a researcher. Internationally, this research takes place in tertiary institutions and high-level think tanks.[5] This is largely "academic" work, meaning that research projects are not specifically commissioned.

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[5] The World Bank also supports some base knowledge research, almost exclusively out of the Development Economics Research Group at World Bank headquarters. Base knowledge research is generally not conducted in the country field offices.

The development of base knowledge feeds into **applied knowledge development**. On a practical level, this consists of a wide range of short-to-medium term research projects, concept development, and piloting implementation, possibly with some academic discussion of the implications of implementation strategies. Government policymakers might find this work to be of interest in terms of setting long-term policy directions but it has limited relevance for day-to-day decision-making. Some high quality applied knowledge research is also publishable in peer-reviewed academic outlets.

The bread-and-butter of policy work is quick and succinct **policy briefs** that the top levels of government (typically the president, vice president and ministers) can use in day-to-day decision making.[6] These take the form of short policy notes, briefing notes, discussion points, very short-term research, and facilitation.

In an ideal world, there would be a strong foundation of researchers, probably academics, working on base knowledge products. There would be a back-and-forth knowledge flow between researchers in base and applied knowledge development, with field applications building on base knowledge, and base knowledge researchers drawing on the results of applied work to refine and develop base knowledge. Production of good quality policy briefs depends on understanding the implications of base knowledge, plus the ability to draw lessons from a range of applied knowledge experience and extrapolate to the current environment.

b. Central and Local Government

Research demand

The first aspect of research demand is the type of research demanded and the level of government interest in research. High-ranking officials mostly demand policy briefs on a specific topic, and they usually require these summaries to be completed in very short time (a minimum of two days, a maximum of one week). In contrast, government research and development offices—although they also undertake a substantial in-house research—usually contract out applied knowledge research, mostly to domestic university research centers. The applied knowledge research products demanded usually take between two to six months to prepare and the topics chosen are those thought to be priority issues.

Most respondents agreed that the level of government interest in research very much depends on the minister. As such, there is a large variation in research interest, ranging from very high to non-existent. The extent to which research is used to inform policy debate, meanwhile,

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[6] In the words of one respondent, "*I never met an Echelon One who made a policy decision.*"

depends on both the minister and the quality of research supplied. Many respondents, even those at government research agencies, admit that the quality of research supplied to the high-ranking officials has been sorely lacking (more discussion on in-house research capabilities). As such, some ministries and agencies with a strong research demand estimated that only about half of the research products supplied inform policy debate. In ministries or agencies that do not prioritize research, policies were described as implemented in a vacuum with regards to research. The respondents said that these ministries use research to justify a policy that they want to implement rather than using research to provide them with policy alternatives.

The second aspect of research demand is related to the budget spent on research. In most ministries, the research and development office is not the only area that undertakes in-house or commissions outside research. The directorates and minister's expert staff are also engaged in research initiatives, often the most crucial ones. As such, estimating the budget spent on research at government agencies is extremely hard. In addition, the amount varies widely between different departments. Most of respondents in government research agencies state that the research budget at their organizations is small. From the interviews, the annual government research budget ranges from Rp. 50 million to Rp. 26 billion with the average price of a research product ranging between Rp. 10 million to Rp. 13 billion. A particularly sobering example comes from the interview with the local government of City of Pekalongan. The city spends a total of Rp. 50 million per year for research to fund about four or five research projects of Rp. 10 million each. In proportional terms, the research budget for the city is 0.01 percent of City government spending.

In contrast to the difficulty in estimating the research budgets within government, the research budgets are usually inflexible and, according to one respondent, inappropriate to contracting research. Budget can be submitted up to six months prior to the beginning of a fiscal year (in accordance with usual routine budgeting procedures). Usually, budgets cannot be modified even if an important research topic arises in the middle of the year. Some ministries have been able to work around the inflexible budget by allocating funding for a fixed number of 'small packet' and 'large packet' projects whose topics are defined as they emerge during the fiscal year. However, the amount of funds in these packets is relatively small. A related problem is that government budgets are often not released until well into the second half of the fiscal year. Budget inflexibility combined with late disbursement means that the vast majority of government ministries cannot, in practice, fund multi-year research projects. The major exception to this is LIPI, whose research projects are all multi-year and designed every five years.

The third aspect of research demand pertains to the quantity and quality of research. Despite the claim by government respondents that their research budgets are small, there is no shortage of research with regards to quantity demanded. One respondent at an MFI thinks that there is too much research going on. Others agreed that research suffers from poor design and inadequate skills to manage and supervise the work, resulting in low quality and unusable research. As such, the demand for policy briefs at the top level of a ministry—which ideally is a summary of high quality applied knowledge or base research—is largely unfulfilled. As discussed later in this report, policymakers have increasingly turned to donors/MFIs to fill this gap.

In-house research capabilities

Respondents identified several major issues that are likely to contribute to the relative inability of government research and development offices to produce high quality research. The first issue is the fact that these offices can be used as a place for low-performing civil servants, as research is perceived as a place where they are least likely to cause any negative effects—reflecting the generally low value placed on research by some ministries. As a result, the vicious cycle of low quality of research products and low utilization by ministers is perpetuated.

The second issue is related to the staffing procedures in the civil service. It is common for staff to be periodically rotated through the ranks to obtain promotions. Therefore, government research and development offices face difficulties in maintaining high quality researchers and building a critical research mass. High quality researchers are reportedly often moved to directorates with higher strategic priorities and often never return to research.

The third issue is related to income levels (discussed in much more detail below). Interviews revealed that staff in research and development offices at ministries or agencies that have implemented the new *Remunerasi* salary system usually receive the lowest level of allowance.[7] As a case in point, staff at the Ministry of Finance Fiscal Policy Office receive the lowest income compared to a similarly ranked staff at either the Taxation Office or the Customs Office. As will be discussed below, the low salary is an issue when a research and development office chooses a supplier for research that is contracted out.

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[7] Civil servants under the *Remunerasi* system receive the same base salary regardless of levels but different allowance salary based on the level that they are at.

Research procurement

The first aspect of research procurement is related to the procurement guidelines. Contracting out of government research is regulated through Perpres 54/2010. Two issues arise. Firstly, the regulation forbids non-profit organizations to participate in competitive bidding. As such, the vast majority of NGOs, think tanks, and university research centers are not able to submit bids. Second, the regulation sets a ceiling of of Rp. 50 million for projects to be exempted from bidding. As a result, the vast majority of research suppliers only have access to small research projects.

One way around the regulation is to define a research project as *swakelola*, or self-managed. A research project under this scheme is portrayed as if it is conducted in-house, with a specific budget for external expert advice. The research and development office can then contract individuals from university research centers as the experts although the university research center would be the ones undertaking the research.

The second aspect of procurement is related to the identification and choice of suppliers. Most government agencies have long-term relationships with particular university research centers. Most contracts therefore go to domestic-based organizations or individuals.[8] A closely related issue to the choice of suppliers is kickbacks. Respondents consistently reported that they have to pay kickbacks to win research contracts, usually to the contact person inside the ministry. And the organization willing to provide the largest kickback usually wins the research contract. The practice is common in the majority of government departments and many local governments with the size ranging from 5 percent to 40 percent of the total value of the contract. Some government officials ask for cash in envelopes or bank transfers, but there are other methods to disguise the practice, especially with smaller amounts of kickback. One way to disguise kickbacks is to put a line item for a 'management fee' in the budget. This budget item is then used to pay for fraudulent travel and remuneration of government staff related to the project, and as such allowing the project to pass financial audits. Larger amounts of kickbacks were reportedly exchanged in envelopes and not explicitly mentioned in the budget. The kickbacks are partly a result of low civil servant salary levels, forcing officials to resort to such practices. The result, however, is devastating

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[8] This is only for government-funded research, and not true for the case of where donors/MFIs fund research and provide the results to the government. For the latter case, foreigners or a combination of foreigner-domestic research teams do much of the research.

to the quality of the research provided. Many high quality NGOs and think tanks have refused to accept government research contracts because of the requirement to provide kickbacks.[9]

c. Donor Agencies and Multilateral Financial Institutions

There were seven interviews with five donors/MFIs in order to understand their demand for research. Most donors/MFIs operating in Indonesia prefer to contract out their research, with the exception of the World Bank (see Box III.1). From our interviews, only about 18 percent of research is done in-house.

Commissioning research makes up only a small part of an agency's activities. The topics are usually defined through an agency's mandate or international agenda. The research needed is mostly applied knowledge type, although donors/MFIs sporadically demand a small number of base knowledge research products. There is only low to medium engagement with relevant government counterparts on the topics, mainly because of the lack of interest from the government. Ministers or high-ranking officials with a high interest in research, however, frequently engage the donors/MFIs for help—either in the form of research funds or research personnel—with specific research topics in the form of policy briefs or applied knowledge research.

The amount of research funds spent by donors/MFIs appears to be much higher than that spent by the government. Although difficult to calculate (because the research is usually undertaken as a part of a larger initiative), donors/MFIs report they spend between Rp. 500 million and Rp. 25 billion on any given research product. Other crucial differences between these organizations and the government in budgeting are the fact that research budgets at donors/MFIs are very flexible and that they are able to fund multi-year projects. Note, however, that most research projects commissioned are short-term, while the rest can be multi-year although they have to be broken into phases for ease of management.

Most donors/MFIs use internal procurement guidelines. These guidelines usually have different salary scales for international and Indonesian researchers. Most organizations prefer to contract domestic researchers although some find that a mix of foreign and domestic researchers to be ideal because foreigners are often better at research methodology and writing while domestic researchers are better at fieldwork. The first criterion in identifying

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[9] One respondent, who have supplied research for MoT, MoF, and Bank Indonesia, did not explicitly say whether one department is more or less efficient than others with regards to the procurement process. There is indeed variation in the kickback requested, but most rely on the *swakelola* scheme, which is more efficient than following Perpres 54/2010.

suppliers is quality, followed by cost. Agencies who have been operating in Indonesia for many years usually have a list or a network of preferred suppliers, and these suppliers are usually invited to bid for a research project. Almost all our respondents complain about the lack of high quality research organizations in Indonesia, which means that the high quality ones are often overworked and thus have their quality compromised. Finally, in contrast to government departments, donors/MFIs do not ask for kickbacks from winners of research contracts.

Box III.1 World Bank and the Knowledge Sector

As discussed elsewhere in this paper, the GoI has extremely limited capacity to provide the quick, high-quality policy information needed by decision-makers. Government Ministries lack a sufficient number and variety of educated, highly skilled policy analysts. The alternative strategy of obtaining the quick, high-quality external inputs they require is made impossible by the GoI's cumbersome budget and procurement system. Over time, bilateral and multilateral donors have recognized this gap. In response, the international agencies have developed an increasingly central role in the provision of policy-oriented knowledge products.

Over the past three decades, bilateral donors have often provided dedicated, resident international staff or teams inside GoI Ministries – the Netherlands, DFID and USAID were early developers of this model. AusAID has also chosen to follow this example more recently and has responded to GoI requests for targeted assistance in the Ministry of Finance, Ministry of Trade and BAPPENAS.

After the Asian Financial Crisis of 1997-1998, the strategy of direct bilateral policy assistance began to shift. Anumber of bilateral donors rationalized their assistance programs and moved to an indirect model by establishing Trust Funds at the World Bank targeted to support specific activities in individual countries. This had the benefit of supporting more integrated donor assistance strategies,[10] and reducing individual program management costs while maintaining governance safeguards through Bank management.

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[10] Donors formally committed to improved coordination and integration with recipient government development programs as part of the Paris Agreement of 2005.

Trust Funds at the World Bank can be established by individual bilateral donors to support targeted activities, or by multiple donors in Multi-Donor Trust Funds. In 2006, in the wake of the Asian tsunami and greatly expanded donor activities in Aceh, Bank-executed Trust Funds were greatly expanded and enabled Bank offices to provide expanded research and more regular policy advisory services to government.[11]

As summarized in Table III.1, during Fiscal Years 09&10,[12] Trust Funds provided 72 percent of the Bank's total resources used for economic sector work and technical assistance (excluding Aceh reconstruction activities). This increased to 81 percent in FY11, and is expected to rise to 85 percent during FY12.[13]

Table III.1: Summary of Non-Lending Services (Economic Sector Work and Technical Assistance)

	FY09 & FY10		FY11	
	WB budget $million	Trust Funds $million	WB budget $ million	Trust Funds $million
Total all sectors	7,785	17,128	1,995	8,246
	31%	69%	19%	81%
minus Aceh reconstruction	6,074	15,266		
	28%	72%		

Source: World Bank Country Partnership Strategy Progress Report for Indonesia, FY09-FY12, Feb 8, 2011

Following Bank staff estimates that approximately 70 percent of all Trust Funds are Bank-executed, this indicates roughly USD 7.8 billion was available for research and policy advisory services in FY11.

The World Bank uses these resources in two ways: it hires individual consultants on a contract basis and manages them directly, and it contracts longer-term research activities to Indonesian and international organizations. The numbers involved in this work are non-negligible: the Bank's Poverty Reduction and Economic Management (PREM) sector reports they have 100 consultants under contract (70 Indonesian and 30 international) to provide non-lending services, and the Health sector contracts 50 (25 Indonesian and 25 international), compared to SMERU's 25 researchers and 26 at CSIS'

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[11] Up to this point, Trust Funds were required to be government-executed with only rare exceptions.
[12] The World Bank fiscal year runs from July 1 to June 30.
[13] Verbal estimate from WB Indonesia COSU.

Economics and Politics Departments. Providing this kind of support is attractive to donors because of the ease of management and, more importantly, "it gets them a seat at the policy table" that they value highly and would be less likely to achieve on their own. The bilateral and multilateral donors interviewed agreed that Indonesian researchers generally have poor writing and weak analytical skills. They also agreed that Indonesian researchers had clear advantages in working with communities and understanding the local context, and that collaboration among international and Indonesian researchers resulted in the overall highest quality knowledge products. This strategy is followed in contracting individuals for internal World Bank teams, and typical of the composition of successful firm contracts for larger projects. We believe that a major drawback of this approach, however, is that Indonesian researchers specialize as 'fieldworkers' and only have limited chance to take up more complex roles in a research initiative.

Small contracts from the World Bank in the range of USD 10,000-50,000 (Rp. 90 million to Rp. 450 million) are awarded to individual researchers, or often to NGOs. The size of larger project contracts awarded to firms varies by sector: Health reports an average firm contract range of USD 100,000-250,000 (Rp. 900 million to Rp. 2.25 billion), while PREM notes large contracts vary from USD 100,000-500,000 (Rp. 900 million to Rp. 4.5 billion).

World Bank compensation varies by sector and skills, with the average daily World Bank rate for Indonesian consultants in Health around USD 200-300 per day (Rp. 1.8 million to Rp. 2.7 million) with a maximum of USD 500-600 per day (Rp. 4.5 million to Rp. 5.4 million) for exceptional skills. PREM reports that an Indonesian economist with a new international Ph.D. would receive between USD 50,000-60,000 per year (Rp. 450 million to Rp. 540 million), and a skilled, mid-level economist might receive an annual wage of USD 100,000 (Rp. 900 million). Even at these wage levels, PREM has lost key candidates to the oil companies and private bank research units. All donors and Bank staff interviewed agreed that demand for good Indonesian researchers is greater than the supply.[14]

Given the relatively high compensation scales and large demand for skilled staff, does the World Bank crowd out other institutions in the knowledge sector, absorb resources that would otherwise go to Indonesian institutions and thus inhibit their development?

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[14] Health, Education and PREM were interviewed. Social Development also contracts large numbers of consultants, but was unavailable during the interview period.

Bank staff admits that there is probably some crowding out, but there are a number of mitigating factors.

1. The demand for policy research is not fixed. The GoI relies on the World Bank for research support because they get the quality product they need within short timeframes. If the World Bank provided no research support, it does not mean there would be a 100 percent shift of demand to Indonesian research institutions – it is not clear they could get similar inputs with the quality and speed required.

2. If funding resources were transferrable, policymakers would still have to battle procurement requirements and a bureaucracy with incentives to award contracts to bidders who offer the highest informal margin, and which has little capacity to supervise or manage high quality research.

3. The World Bank contracting arrangements mean most consultants are on short- or limited-term contracts with no job security. Even those who are successful in attaining a World Bank national staff position have very limited career path options and a firm ceiling if they wish to remain in Indonesia. The result is consultants who generally work for several years and then move on to more stable positions or pursue further educational opportunities.

d. Summary: Demand for policy research in Indonesia

There are two types of research products in demand in Indonesia. The first is policy briefs, demanded by high-ranking government officials that highly value research. This demand, however, is largely unable to be fulfilled by the research and development office and, as such, the officials turn to donors/MFIs. Therefore, a substantial share of the demand for policy briefs is supplied by these agencies. Note, however, that policy briefs are ideally based on high quality applied knowledge or base knowledge research. In the Indonesian case, the general lack of quality at the applied or base levels implies that high quality researchers at the donors/MFIs, who are ideally conducting the applied and base knowledge research, end up writing policy briefs.

The second type of research is applied knowledge research, demanded to a larger extent by donors/MFIs and government research and development office, and to a lesser extent by the high-ranking government officials. In general, our respondents believe that there is already a large quantity of applied knowledge research, but quality is sorely lacking.

The applied knowledge research demanded by donors/MFIs and the government differs on several fronts. First, the former usually look for high quality research that will directly

influence activities that the research is directed towards. The latter, meanwhile, generally does not put too much emphasis on quality because contracts go to suppliers that can provide the largest kickback or provide the research results needed to justify a predetermined set of policies. In effect, we find low appreciation for quality research among low- and mid-level government officials. Secondly, donors/MFIs have a substantial and flexible budget for research, while the government's budget is relatively small and inflexible.

The final issue is related to the government's in-house research capability. Most of our respondents argued that the task of a government research and development office is to manage and contract out research, and to provide policy advice, but not to undertake research. There are several reasons for this argument. First, the government budgeting process and human resource practices are not conducive for building a critical mass in any government research and development office. Second, there are not enough qualified staff to undertake a high quality research, and building enough expertise would be less efficient than building the capacity to properly manage research and rely on external research suppliers.

IV. The Suppliers of Policy Research in Indonesia
a. Research Organizations

Human resources

The salary structure, recruitment practices, and other human resource practices vary according to organization (Table IV.1). Government and university research centers have the largest number of researchers, possibly driven by low level of turnovers and due to the relatively sustainable finances (more below). In contrast, the other types of research organization have a relatively small number of researchers. In addition to the turnover in think tank and private organizations being high, these three organizations also do not have a sustainable level of funding. The need to compete for funding may result in these organizations choosing to remain relatively small and thus more flexible. Comparing the share of researchers to total staff of the organizations, it appears that the private sector has the smallest share of non-researchers, while think tanks have the largest. From our interviews, this is due to the fact that think tanks usually have in-house editing and publishing teams, phone operators, and IT support in addition to the usual finance and administration staff. In contrast, the private sector only has administrative staff, while government research bodies have a centralized finance and administration system.

Table IV.1 shows that only government-operated and the private sector provide a fixed salary. Note, however, that the salary level of government research organizations are typically lower compared to the other organizations because the level is determined centrally. In addition,

almost all types of organizations provide health insurance and pensions. Neither universities nor think tanks provide a sabbatical for their research staff.

Table IV.1. Human Resources Practices and Conditions of Research Organizations

Type of organization	Government	University	NGO	Think tank	Private sector
Staff					
Average number of researchers	78	60	20.5	18	20
Share of researcher to total staff (%)	74	69	72.5	54	88
Salary structure	Fixed	Project-based with very small fixed salary	Mixed	Project-based with medium fixed salary	
Fringe benefits	Health, pension	Health, pension	Health, pension	Health, pension	None
Recruitment	Formal, through the civil servant system	Informal, pick the best graduates	Informal	Informal	Both formal and informal
Turnover of researchers	Low	Medium	Low	Medium to high	High
Strategy to retain researchers	None	Higher role	Environment and flexibility	Environment	Salary

Source: Institutional supplier interviews

The choice of a salary structure (discussed in more detail in Subsection IV.b below) plays a significant role in the behavior of researchers. Universities typically provide very small base salaries, thus virtually all of a researcher's income is variable depending on the number of projects that they are involved in.[15] From an organizational standpoint, however, our respondents put forward several justifications for a project-based salary. First, a project-based

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[15] LP3E does not provide any base salary, while LPEM's base salary is very small. As an example, the base salary of LPEM's director is less than Rp. 1 million per month.

salary is more affordable for research organizations that have limited funding and no sustainable source of funding. Second, a project-based salary ensures researchers' productivity because their earnings are a direct function of their productivity. And after considering the problems with the low quality and low productivity of researchers in government organizations visited for this study, these arguments may have some merit. On the other hand, one must note the reasons put forward by organizations that choose a fixed salary structure. They argue that a fixed salary would allow the researchers to focus on the quality of a research product, as opposed to merely focusing on the quantity. In addition, a fixed salary allows the researchers to make financial planning and removes income volatility from the researchers' minds.[16]

The next aspect of human resource practices is related to recruitment. Only the government has a formal recruitment practice through the civil servant system. This system stops research offices at the ministries being able to move quickly to fill a specific research need. The constraint is not as binding at LIPI, where the centers have more flexibility in filling a specific need. However, LIPI is also unable to attract good researchers due to its low centrally determined salary levels.

In contrast to the recruitment difficulties facing government agencies, university research centers usually have the first option of picking the best graduates coming through from the undergraduate system. Therefore, the recruitment system at these organizations is mostly informal, where researchers (who virtually all are also lecturers) involve their best students in research projects starting from the final year of undergraduate studies. This process, however, also results in an extremely inward-looking recruitment. All LP3E researchers did their undergraduate at Unpad. Although LPEM is more open towards graduates of other universities—mostly Institut Pertanian Bogor—a large majority of their researchers are UI graduates.

In contrast to the situation for government and universities, most other research organizations compete for researchers in the open labor market, although most of the recruitment is also done informally. Percik and LP3ES usually recruit researchers for a specific project and then offer the high performing researchers a more permanent position. ICW advertises for

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[16] It may be helpful to use the monetary market as an analogy. On one hand, there are short-term money markets where prices are volatile and activities are short-term. On the other hand, there are long-term bond markets where funds are invested for 20 years or more. One needs to think about the nature of the contracts in the market. If contracts are mainly short-term, then they would greatly influence demand and supply arrangements in the market.

positions through university mailing lists. Interestingly, better-known think tanks such as CSIS do not actively look for researchers. Instead, researchers submit unsolicited application forms to those organizations. The difference between think tanks and NGOs lies in the fact that NGOs usually have an advocacy component in their range of activities.

The last aspect of human resource practices is turnover and strategies developed by organizations to retain good researchers. With regards to turnover, government research organizations and NGOs typically have a low turnover, while university, think tank, and private organizations face medium to high levels of turnover. In virtually all cases, the reason for leaving is to get a higher salary, although it is extremely rare for a researcher to move between organizations, i.e. from a think tank to another think tank. In addition, researchers from NGOs rarely go to other organizations, either think tanks or the private sector, or vice versa. Most of the researchers in our sample organizations move to donors or MFIs, especially those from think tanks or university research centers. Over the past five years, there has been an increasing trend of talented researchers moving to donors and MFIs, and in some cases, the local organization has not been able to replace the lost talent, indicating a major crowding out (see Box III.1 for discussion on donor activities).

Despite the fact that most researchers leave because of higher salary offers, only Strategic Asia mentions offering higher salaries as a strategy to retain good researchers. Other NGOs, think tanks, and university research centers, which are not bound by a centrally determined salary levels, only mention strategies such as improving the working environment or providing more significant research roles. It appears that these organizations do not offer better salaries because they cannot afford to and thus rely on other strategies to retain staff.

Research practices, output, and price

The discussion on research practices begins with an examination of the major users with whom the research organizations have long-term relationships. Unsurprisingly, government research agencies mostly supply research to the government. Ministry research and development offices provide research to the policymakers in their respective ministries, while LIPI disseminates its research results to the government, parliament, state agencies, and donors. University research centers, meanwhile, mostly supply research to central government departments, although they are also increasingly supply research to local governments. Only a small part of their research is funded by donors or foreign research grants. In contrast, NGOs and think tanks mostly provide research services to donors and MFIs. The private sector, meanwhile, provides services to donors and government equally.

When asked about the positive and negative aspects of working for each type of user (donors/MFIs versus the government), non-government respondents mention the following. The first positive aspect of working for the government is that the research can influence policy. Moreover, government contracts usually require less work effort and time to be completed. Therefore, although the prices of government contracts are usually lower than those from donors, they can bring in more money because an organization can work on numerous government contracts at a time.[17] The negative aspects of working with government, meanwhile, includes long procurement processes (one of our respondents end up not getting paid after completing the project), the 'civil servant' culture of not wanting to work too hard, and the government sometimes using research to back up a predetermined policy rather than investigating what the best policy is. The major stumbling block for working with governments, however, is the requirement to pay kickbacks. According to our respondents, almost all government ministries ask for kickbacks up to 40 percent of the total project cost. Many NGOs and think tanks refuse to work for the government because of this issue, although universities do not seem to mind so much.

Table 1V.2. Research Practices, Output, and Price

Type of organization	Whole sample	Government	University	NGO	Think tank	Private sector
Practices						
Major user	-	Government	Government	Donors and MFIs	More donors and MFIs than government	Mixed
Criteria for choosing a project	-	Relevance	Money, interest	Relevance, idealism, and expertise	Substance, expertise	None
Share of uncommissioned research to total activity (%)	41	100	30	60	10	0
Output						
Average annual number of projects	12.6	16.5	20.5	5.5	9.3	-
Average maximum length (months)	6.3	7.5	4.5	9	5	-
Share multi-year projects to total current projects (%)	15.7	50.0	8.5	10.0	6.7	0
Average price per research project (Rp. millions)						
Minimum	95.4	-	135	63	90	-
Maximum	644.4	-	252	1035	648	-
Share of overhead to total	20	0	22.5	35	22.5	-

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[17] In other words, the amount of money earned from government contracts is much higher than from donors/MFIs for the same amount of work effort exerted and time spent on research. Another way of looking at this is that for the same amount of money received, research organizations spend less time and exert less effort on government contracts than on donor/MFI contracts.

project price (%)

Source: Institutional supplier interviews

The positive aspects of working for donors/MFIs, on the other hand, are the clear set of outputs required, the ability to charge a higher price although organizations have to work harder, and the fast administration process. The negative aspects of working for donors/MFIs include inability to directly influence policy and, most of the times, the obligation to work under a foreign consultant. The latter implies that the organizations have very little influence in determining the research methodology, resulting in a lack of capacity building for their researchers.

The second aspect of research practice is related to the criteria used by organizations in choosing a research topic. Government agencies choose topics that they believe are relevant either to their parent ministry or on strategic issues. MoT, for example, sets annual research topics based on the ministry's medium-term plan, and also has spare capacity to respond to ongoing requests from the minister and the director generals. In addition to these annual 'large packet' projects, the MoT allocates money for about 10 'small packet' projects in a year. On the other hand, LIPI decides on five-year research plans on strategic issues. Given that government agencies receive stable operating and research funds annually, all of their research products are considered as uncommissioned, i.e. not externally funded.

University research centers are at the other end of the spectrum with regards to choosing research topics. Given that they receive very limited funding from their parent university, the first criterion for choosing a research topic is the amount of research funding available. The second criterion is research interest. As an example, LP3E does not accept qualitative research, although LPEM appears to receive any money-generating research topics. In effect, the vast majority of the research projects in university research centers, around 70%, are commissioned. For LPEM, the uncommissioned research projects are geared towards generating future income.

The research practices of NGOs and think tanks lie between government and universities. Most of the organizations interviewed mention substance and expertise as the first two criteria in accepting research projects. There are two major differences between these two types of organizations, however. The first is the idealism that very much permeates NGOs, including reluctance to work with several MFIs whose views they do not agree with. This is also partly the reason why the NGOs visited do not currently accept funds from the government agencies because they usually ask for kickbacks and do not care about quality. The second is the high

share of uncommissioned research conducted by NGOs, because they usually have advocacy activities that require research backing. In contrast, think tanks only conduct a small number of uncommissioned research projects.

On research output, Table IV.2 shows that universities are the most productive with an average of 20 research products annually, with an average maximum of five months. In a sense, this is unsurprising given their project-based salary structure. Government research agencies are in second place with regards to productivity, although the average time for research projects is much longer compared to universities or think tanks. Finally, NGOs produce the least amount of research products and take the longest to complete a research initiative. For the whole sample, Indonesian research organizations produce an average of one research product per month, with each research product taking about six months to complete. As previously mentioned, there appears to be no issue with the quantity of research output in Indonesia. If anything, perhaps Indonesian research agencies are producing too much research because of the tendency (reinforced by the structure of financial incentives) to emphasize quantity over quality.

Finding information on the average price of a research product is relatively hard for government research agencies and the private sector. The government budgeting system does not specifically earmark spending for research. As an example, a ministry's research and development office has budget for staffing, operations, and capacity building. Given that both research and non-research activities use all these factors as input, classifying them into research and non-research is close to impossible. In the private sector, meanwhile, research is priced depending on various factors and as such has wide ranging prices. Therefore, averaging these prices would be incorrect. Therefore, prices for the output of these two types of organizations are not presented.

For universities, NGOs, and think tanks, the average price for a research product ranges from Rp. 95.4 million to Rp. 644.4 million. There is considerable heterogeneity between the organizations, however, with universities' maximum price of about Rp. 252 million. On the other hand, NGOs receive up to Rp. 1,035 million and think tanks about Rp 648 million. The annual income from research, however, appears to be more similar because universities make up for their relatively low price by working on many more projects and the range between the minimum and the maximum price that universities charge is relatively small compared to NGOs and think tanks. Based on the information on Table IV.2, the maximum income for universities is Rp. 5.2 billion, while NGOs and think tanks can receive a maximum of Rp5.7 billion and Rp. 6 billion respectively. The minimum income, however, provides a different

story. In a given year, universities can expect to accept a minimum of Rp. 2.8 billion, while NGOs and think tanks have the possibility of only receiving Rp. 346.5 million and Rp. 837 million. Therefore, universities are in a better position compared to NGOs and think tanks in making financial planning and projections.

The final issue to consider with regards to prices is the relatively high share of overheads in total project costs. NGOs have the largest share of overheads (about 35 percent) while universities and think tanks average about 22.5 percent of overheads. The respondents argued that this is a reasonable share of overhead because the money is spent on editing, publishing, and project administration. The issue is that the research users often do not want to fund the total overheads.[18] When this happens, research organizations have to carry overheads themselves, sometimes risking actually losing money in a research project.

Sustainability

When asked to think about the future, all respondents were optimistic about their organizations. According to them, the most important issue for the sustainability of their organization is financial sustainability. This issue is more critical for think tanks and NGOs, and to a lesser extent universities. None of our respondent receives core funding, while only three have an endowment.[19] Therefore, the vast majority of organizations rely on income from research. The endowments either come from donations, savings from a previous core funding, or research income. In all cases, the endowment can only cover around 10 percent to 25 percent of non-research expenses. From all our respondents, only three organizations are making profits, while the rest earn enough only to break even. Usually, the higher the share of non-researchers to total staff, the harder it is for the organization to make profits. Note, however, that non-research staff play an important role in keeping the quality of the research output high.

A number of respondents are building endowments from saving a proportion of their research income or by conducting fund raising activities. Few try to create a profitable business arm such as publishing houses or cooperatives. One respondent conducts road shows to local governments and looks for non-traditional sources of funding. A number have tried to look for external core funding but, significantly, none were unsuccessful. On average, the directors of these organizations spend between 50 and 70 percent of their time looking for research projects.

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[18] One of our user respondents say that its policy is to pay a maximum of 15 percent of overhead.
[19] SMERU Research Institute receives core funding from AusAID, but is not included as our institutional respondent as AusAID has commissioned a specific study on SMERU.

Despite Table IV.2 showing that multi-year research projects are rare for research organizations, the ability to predict research income is not a major issue. Most organizations have long-term relationships with users and occupy a niche market. As such, they can expect a relatively constant number of research requests from the users over the years. From our interviews, none of the research organizations appear to have spare research capacity.

The second important issue is keeping talented researchers. Some respondents complain about the difficulty in keeping researchers from joining donors/MFIs, which provide a higher and fixed salary. The third issue is regeneration. Currently, many Indonesian research organizations over rely on one or two leaders and there are organizations that seem to lose direction or collapse altogether if those leaders leave. This is especially true for NGOs and think tanks, which usually have no regeneration system in place.

b. Individual Researchers

Reasons for choosing a research career

From the sample, idealism and interest in research are the two top reasons for choosing a research career. Added with the fact that these individuals are mostly highly performing in universities, the pool of talent in Indonesian research organizations shows encouraging signs. None of the researchers in our sample choose to do research because they could not find a job elsewhere. When asked about their dream job, ten of our 14 respondents mention research and one mentioned journalism because it combines research with travel. The rest mentioned teaching and or a career in politics. Therefore, the likelihood that these individuals remain as researchers throughout their careers is very high.

Take home pay[20]

Government researchers under the *Remunerasi* system receive the same base salary regardless of level but different allowances based on the level that they are at. At Bappenas, which is on the new system, there are three levels of researchers, with the lowest level receiving a monthly salary of Rp. 5.4 million, while the highest level receiving Rp. 15.5 million. On the other hand, researchers at government agencies with the old salary system receive much lower salaries. As an example, the director of a ministry research and development office usually receives a salary of Rp. 8 million a month.

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[20] We use the term 'take home pay' as opposed to earning or salary because we aimed to capture the total amount of money that a researcher takes home. Therefore, these figures include income from all sources.

The take home pay at other research organizations varies widely. The rate at university and think tanks depends mostly on education and experience, while private sector salary pays according to the prevailing market rates. Figure IV.1 shows the average take home pay received by researchers in different organizations. From the figure, researchers at government and NGOs take home the least amount, around Rp. 4 million and Rp. 7 million respectively. The next group consists of university and think tank researchers, whose average take home pay is Rp. 22 million and Rp. 28 million; between four and seven times the take home pay of researchers in government and NGOs. The highest earners, meanwhile, are those working in the private sector. These researchers earn three times the researchers at universities and think tanks, and almost ten times the rate of a government researcher.


Figure IV.1. Average Take Home Pay of Researchers, by Organization
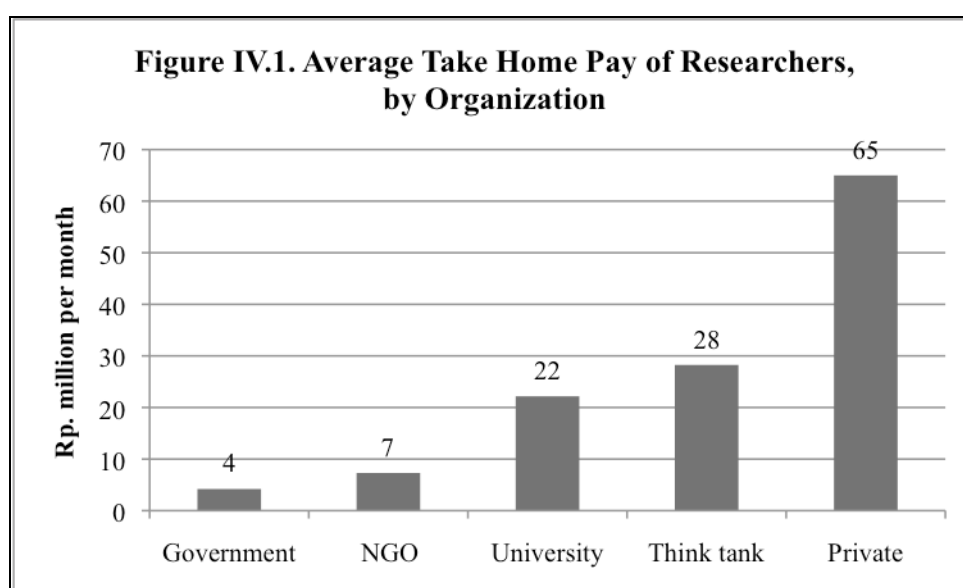
Source: Individual researcher interviews

The average monthly take home pay of Rp. 24 million, as shown in Figure IV.1, may imply that Indonesian researchers are earning a sufficient amount. However, another issue to be taken into account is related to the salary structure at research organizations. As shown in the previous subsection, most NGOs, university, and think tanks pay their researchers based on the number of research projects done. Therefore, a substantial proportion of the researchers' income is in fact variable. Figure IV.2 shows the share of a researcher's income that is fixed in different types of organizations.

Researchers working in universities have the lowest share of fixed – or guaranteed – take home pay, at 27 percent. This means about three-quarters of a university researcher's monthly take home pay depends on the amount of research projects and teaching that they do. At the other end of the spectrum are private sector researchers, whose whole take home pay is fixed.

Meanwhile, 84 percent of government researchers' take home pay is fixed, as the only variable part comes from conducting sporadic training. The discussion in subsection IV.c indicates that the level variability in income is actually the main economic constraint to producing high quality research.

Figure IV.2. Share of Researchers' Fixed Take Home Pay, by Organization
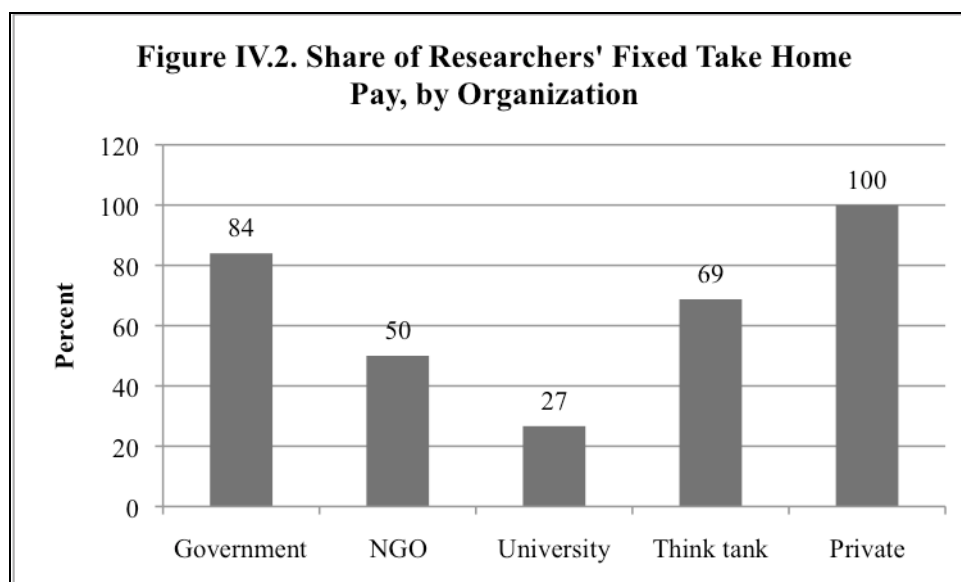
Source: Individual researcher interviews

Career progression

Career progression for a researcher in most government agencies follows the civil service promotion system. The exception is for researchers in ministries or agencies that are the new *Remunerasi* system and researchers who are working at ad-hoc government agencies that are outside the government structure. The former usually has only a relatively small number of career steps, while the latter usually has no promotion system in place.[21] The interviews suggest that career progression in government agencies are based on a system that puts more value on quantity than quality. In addition, the system ensures automatic promotion for all individuals, only capped by their education level.

University research centers, where the majority of researchers are also lecturers, usually follow the university promotion system. Meanwhile, NGOs and think tanks have relatively flat organizational structures determined by education and experience. Many think tanks only have three levels of researchers: junior researcher, researcher, and senior researcher. It is not unusual for a researcher in NGOs and think tanks to have the job title of a researcher for most

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[21] As an example, there are only three researcher levels at Bappenas, one of the agencies under the Remunerasi system.

of their career, although this in no way implies a stagnant career as their responsibilities are untied to their titles and are tied to experience and performance.

If one looks at career progression in terms of take home pay, meanwhile, the average nominal (not price-deflated) salary increase in the sample is around 15-fold over their career up to the present (note that most researchers interviewed are not yet at the end of their career). The average research experience in the sample is 12 years, implying an average annual salary increase of 87 percent.[22] Disaggregating by organization, university researchers experience the largest average annual salary increase, 197 percent, followed by NGO (97 percent), private research company (44 percent), and think tank (25 percent). Researchers at government organizations experience the smallest average annual salary increase, of only around 11 percent.

Research practices

Table IV.3 shows the way respondent researchers choose the research project to work on. The first reason for choosing a particular project turns out to be by assignment (57 percent), not alignment with research interest (14 percent) or quality of the proposed project (7 percent). This implies that Indonesian researchers are not necessarily engaged in research projects that they are especially interested in. When disaggregated by type of organization, working on assigned research projects is particularly true for private sector and think tank researchers. Government and university researchers appear to have more scope to work on research projects that they are interested in.

Table IV.3. Research Practices of Individual Researchers

	Government	University	NGO	Think tank	Private sector
Project choice	Interest, demand	Interest, quality	Mostly assigned	All assigned	All assigned
Uncommissioned research	Medium-high	Limited	Limited	None	Medium
Share of academic to total publications	Half	Majority	Minority	Minority	Minority
Average number of concurrent research projects	1.5	2	2.7	3.5	2

Source: Individual researcher interviews

The second aspect of research patterns evident from the sample is the share of researchers who do uncommissioned research. This type of research does not generate any immediate

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[22] An outlier is removed from the sample. This researcher has a 50-year research experience, and his salary progression is 2142-fold increase. Ideally, we do not have to take the research out if we can get access to price data from the 1950s and deflate the prices. However, such information is not available. Therefore, we rely on nominal figures and have to remove this researcher from the sample.

external income and usually stems from a researcher's own interest. In addition, a researcher may still be producing high quality research if he or she is engaged in uncommissioned research despite the fact that the majority of research projects that he or she work on are assigned by their organization. Approximately 42 percent of researchers in the sample were not engaged in uncommissioned research, and only 20 percent reported that they mostly do uncommissioned research. There also appears to be significant heterogeneity with regards to uncommissioned research. Researchers from university and NGO only do limited amount, while researchers from think tanks do not engage in any uncommissioned research. In contrast, researchers from government are conducting in much uncommissioned research beyond the research commissioned by their supervisors.

Related to project choice and engagement in uncommissioned research is the share of academic publications, i.e. refereed journals and books, to total publications of a researcher. Only about one-fifth of respondents indicate that the majority of their publications are in academic outlets, while the rest are mainly producing reports that are not peer-reviewed. Looking at different organizations, the latter is especially true for researchers in NGOs, think tanks, and the private sector. In contrast, university researchers tend to be more productive in academic publications.[23]

The final aspect of research practice is the number of concurrent projects. Taking the salary structure of various research organizations and the share of variable income into account, researchers whose take home pay is largely variable are probably working on quite a few research projects at the same time. Surprisingly, think tank researchers turn out to be the busiest in any one time with an average of 3.5 concurrent projects, followed by NGO and university researchers. Unsurprisingly, government researchers work on the fewest research projects at any one time. .

In order to explain the fact that think tank researchers are busiest people in the sample despite having 70 percent of their pay as fixed (Figure IV.2), one must consider the pay structure of think tanks, the share of researchers to total staff, and the number of research staff (Table IV.1). Since think tanks pay a relatively large amount of fixed salary to their researchers, the organizations assume the most of the responsibility in finding research projects. In addition, a relatively high share of think tank employees are non-research staff. Therefore, researchers must take on more projects in order to be able to cover the overheads

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[23] To be fair, universities do have a research role while NGOs are more interested in advocacy. Therefore, it is not surprising to see universities being more productive in academic publications than NGOs.

of the non-research staff. Finally, the average number of research staff at think tanks is much smaller than at universities. We believe that these three conditions result in think tanks assigning more research projects to their researchers relative to universities or the private sector. In turn, the heavy research workload is effectively stopping think tank researchers from producing academic publications or conducting uncommissioned research.

Non-research activities

The non-research activities that researchers usually engage in are training or teaching. This study measures the amount of time spent on non-research activities and the income that researchers earn from these activities. As shown in Figure IV.3, the average for the whole sample is to spend one-fifth of time on non-research activities and to earn 18 percent of total income from these activities.

Figure IV.3. Non-research Activities
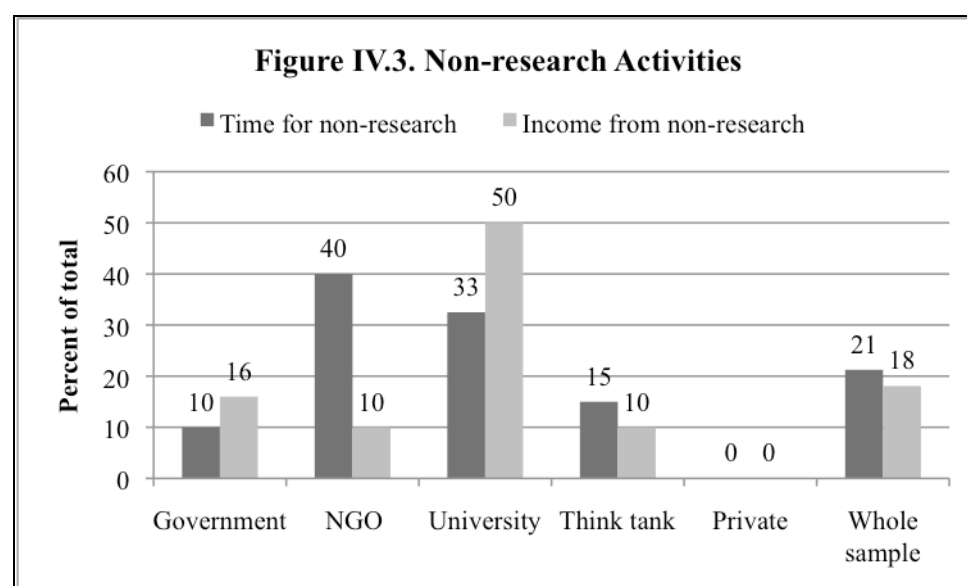
Source: Individual researcher interviews

Judging from these two variables, the marginal income from time spent on non-research activities appears to be slightly smaller than one. In other words, non-research activities are less efficient compared to research activities because the latter take up 79 percent of time but provide 82 percent of income. However, there is considerable variation in the sample. Non-research activities appear to be more efficient than research activities for government and university researchers. At the other end of the spectrum are NGO researchers, whose non-research activities take up 60 percent of their time despite only bringing 10 percent of income. This is probably driven by the fact that NGO researchers are mainly engaged in advocacy activities.

c. Summary: Economic constraints to good policy research

Constraints facing organizations

Despite being heavily reliant on short-term research projects, non-government research organizations in the sample appear to be doing quite well and are in no danger of closing down. However, they cannot produce high quality research—which usually takes longer than four to six months—because of the pressing need to hunt for research projects. And because the research income is insufficient to build an endowment or for other expenses (such as capital expenses), these research organizations will continue to rely on short-term research projects. More worryingly, some organizations have begun to specialize on government research contracts because of the relatively low effort required to complete the contracts. As such, these organizations are producing a large number of low quality short-term research products.
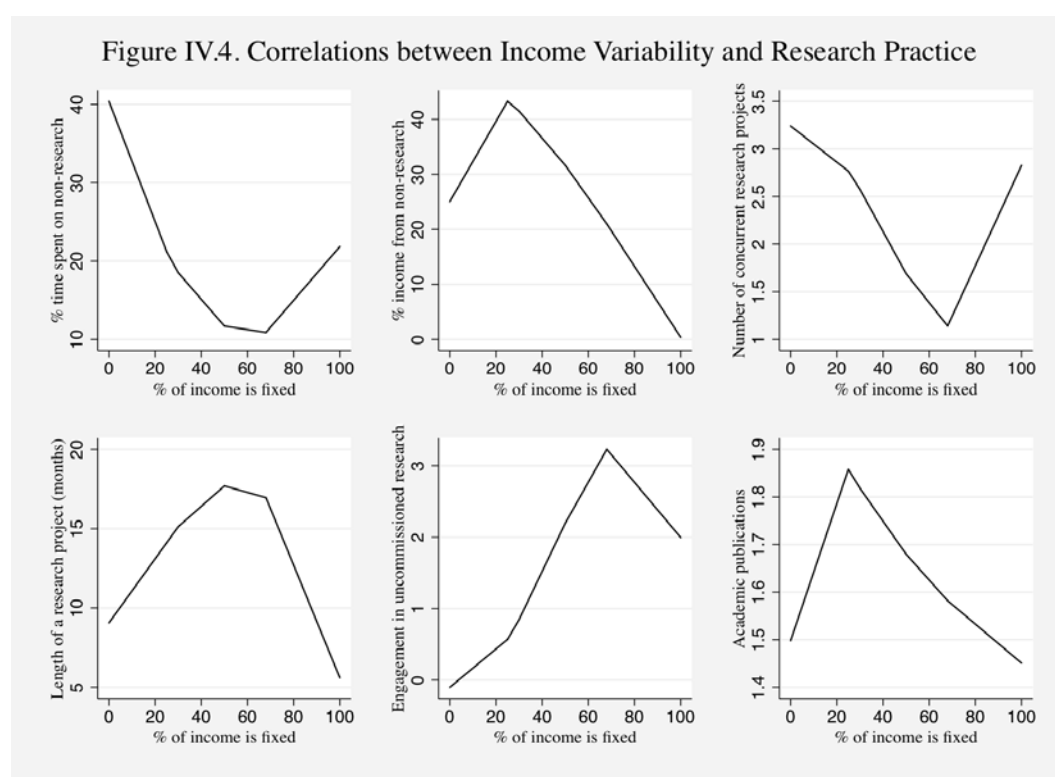
Individuals

This study identifies two individual-level economic constraints that impede the ability to produce high quality research. The first is that a substantial share of researchers' take home pay is variable. As we show in Figure IV.5, the level of variability is positively correlated with the number of concurrent research projects, time for non-research activities, and income from non-research activities. At the same time, variability is negatively correlated with engagement in uncommissioned research, length of a research project, and academic publications. Given that high quality research usually requires a significant amount of investment with regards to time and focus, it appears that a salary structure that has a large variable component impedes good quality research.

The second constraint pertains to researchers earning a fixed take home pay. These researchers are working in government agencies, the private sector, and think tanks. Although government researchers are taking home a fixed amount of money each month, the amount is very small compared to researchers from other organizations—around Rp. 4 million. In order to supplement this small amount, many government researchers are either teaching or getting involved in research projects that are generally low quality and short-term. Those responsible for procuring external research services ask for kickbacks. More senior staff are busy taking on other money generating responsibilities, such as becoming commissioners at state-owned enterprises. None of these activities are related to producing good quality research. These government researchers may be responsible for the upward tick among fixed income

researchers with regards to time spent on non-research activities in Figure IV.4, top left figure.

The second group that earns a fixed income is think tank and private sector researchers. As shown in Table IV.3, think tanks in Indonesia are managed in a way that results in researchers taking on a large number of relatively short-term research projects at the same time. As such, think tank researchers do not have enough opportunity to do uncommissioned research or publish in academic outlets despite spending almost all of their time conducting research. Private sector researchers also experience these conditions, although to a lesser extent because private research firms usually have a smaller share of non-research staff.

Figure IV.4. Correlations between Income Variability and Research Practice

Note: The scales in graphs on engagement in uncommissioned research and academic publications do not mean anything except that a larger value means more of those activities.
Source: Individual researcher interviews

Finally, it is worth reiterating that many talented researchers are moving to donors and MFIs to get a higher level and fixed salary. While this is perfectly rational, these talented researchers have even less time to do quality research at their new workplace. The majority of activities at donors and MFIs do not lead to research that is publishable in academic outlets. Therefore, the quality of research in Indonesia is further eroded by the fact that these high performing individuals take up jobs working for donors and MFIs.

d. Other politico-socio constraints

It seems clear that economic constraints result in researchers not having ample opportunity to undertake high quality research. In addition to identifying those constraints, the study also attempts to uncover other constraints that limit the production of high quality research even when the economic constraints facing researchers are removed and they have ample opportunity to undertake high quality research.

This part of the investigation began by asking the respondents their opinion on the differences between foreign-educated and domestic-education Indonesian researchers with regards to quality. Afterwards, the respondents were requested to compare foreign researchers who are working on Indonesia with Indonesian researchers. Finally, they were asked about the obstacles faced by Indonesian researchers.

The comparison between domestic- and foreign-education Indonesians was designed to examine whether the quality of domestic education in Indonesia is a constraint to policy research. Many of our respondents say that foreign-educated Indonesians are familiar with more research tools and methodologies, can think critically, and write better. In contrast, domestic-educated Indonesians are better at data collection. Finally, foreign-educated Indonesians have better English. When asked to compare Indonesians with foreigners, meanwhile, the respondents say that the advantages of foreigners over Indonesians (presumably foreign-education Indonesians as all but two of the respondents are foreign-educated) are in work ethics and packaging of research results. The respondents believe that Indonesians and foreigners are on par with regards to research methodology, and Indonesians know the local context better.

From the comparisons above, it appears that the Indonesian tertiary education does not train students to think critically and write well. *Indonesians have to go abroad in order to gain the skills necessary for high quality research.* However, even foreign-educated Indonesians still have a lower work ethic and less writing skills than foreigners. This probably implies that work ethic and writing skills need to be cultivated early on, before tertiary education.

There are a number of other obstacles other than the low quality of education in Indonesian universities. The first is the *lack of an environment* that promotes serious high quality research. This includes the difficulty in getting one's work peer-reviewed, a lack of access to

the literature, and a lack of opportunity to exchange ideas. The second is the *lack of mentorship from more senior researchers and lack of capacity building opportunities*, where researchers can upgrade their skills. One respondent said that most senior Indonesian researchers are now so busy with consulting that they have no time to cultivate upcoming researchers. At present, there are almost no Indonesian researchers who are working on long-term, high-quality, and deep research. As such, most young researchers are only trained in conducting short-term and "superficial" research. The third obstacle is related to the *lack of research and travel funds*. As a case in point, one of our respondents mentions that the annual per capita travel funds provided by his university is about Rp. 2.6 million. In addition, while DIKTI (Directorate of Higher Education in the Ministry of National Education) is now providing research grants between Rp. 40 – 300 million per project (McCarthy and Ibrahim, 2010), the conditions in those grants are very restrictive. As an example, the grant only allows a salary for a research assistant of Rp. 1.25 million per month. Almost no good research assistants would be willing to work for such an amount.

After asking the respondents to list non-economic constraints to quality research, they were asked to judge whether these non-economic constraints are more serious than the economic constraints. Out of 14 respondents, only three said that the economic constraints are more serious, while six picked non-economic constraints as the more serious. The rest said both constraints are equally serious.
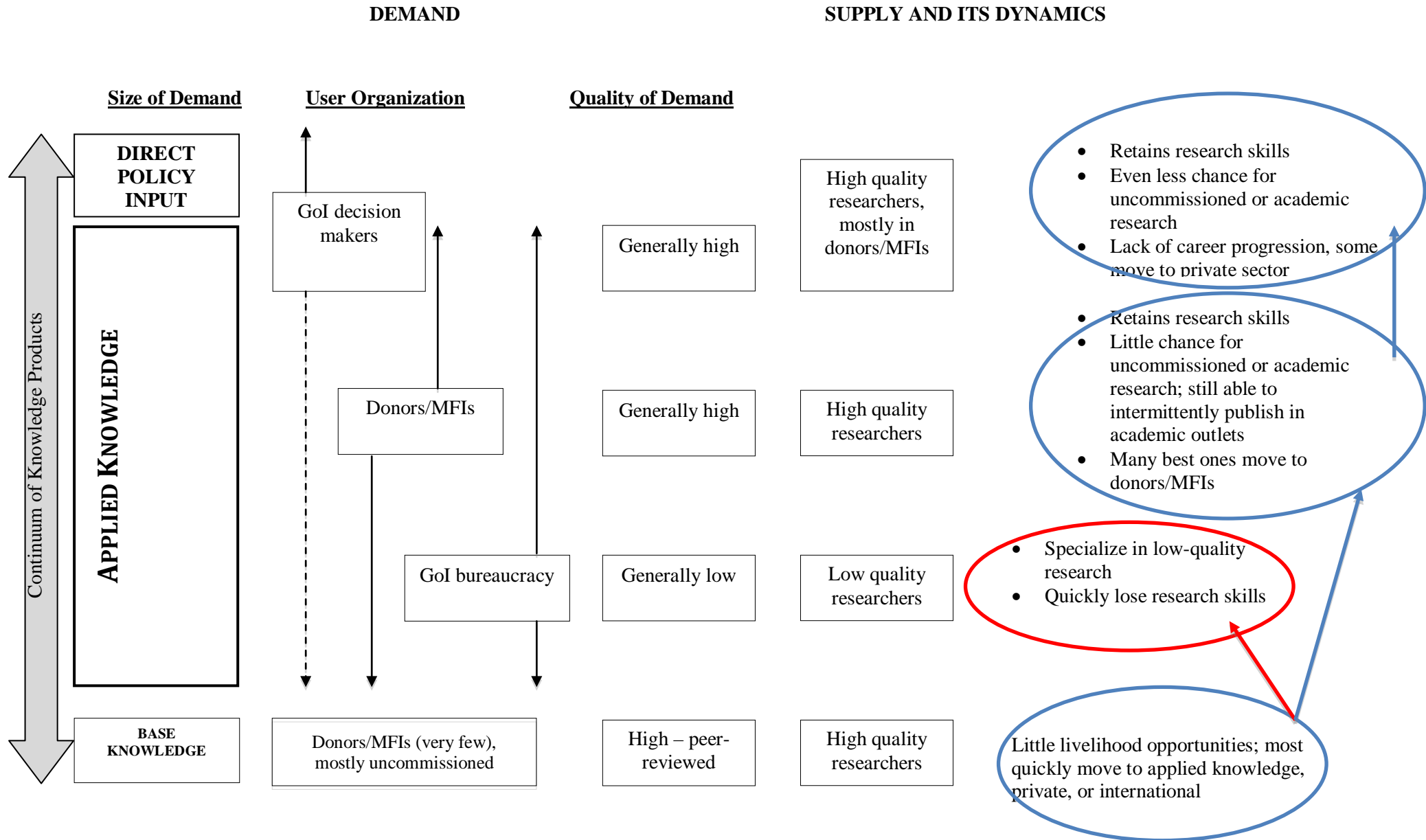
V. Combining Demand and Supply of the Research Market

The market for research

Figure V.1. shows the summary of the research market in Indonesia along with the dynamics of suppliers. There are three categories of policy research demanded in Indonesia: base knowledge, applied knowledge, and policy briefs. Fieldwork results show that the largest demand is for applied knowledge research, although there are differences in quality depending on the consumer of a particular product.

Turning to the dynamics of researchers, the formal tertiary education system—regardless of variation in quality—trains individuals in base knowledge research. As such, most Indonesian researchers leave the education system with the basic skills to engage in base knowledge research. However, the fact that base knowledge research is in very small demand in Indonesia results in most researchers quickly moving to conducting applied knowledge research. The rest move abroad to be able to continue conducting base knowledge research or leave research altogether.

Figure V.1. The Market for Policy Research and Researcher Dynamics in Indonesia

DEMAND   SUPPLY AND ITS DYNAMICS

Size of Demand   User Organization   Quality of Demand

DIRECT POLICY INPUT

GoI decision makers

High quality researchers, mostly in donors/MFIs

Generally high

- Retains research skills
- Even less chance for uncommissioned or academic research
- Lack of career progression, some move to private sector

APPLIED KNOWLEDGE

Continuum of Knowledge Products

Donors/MFIs

Generally high

High quality researchers

- Retains research skills
- Little chance for uncommissioned or academic research; still able to intermittently publish in academic outlets
- Many best ones move to donors/MFIs

GoI bureaucracy

Generally low

Low quality researchers

- Specialize in low-quality research
- Quickly lose research skills

BASE KNOWLEDGE

Donors/MFIs (very few), mostly uncommissioned

High – peer-reviewed

High quality researchers

Little livelihood opportunities; most quickly move to applied knowledge, private, or international

The issue of whether a budding researcher can fulfill his or her potential as a high quality researcher depends on his or her initial placement. Those who join university research centers or government research and development offices are usually pulled in to specialize in short-term high-quantity low-quality applied knowledge research, because this is the kind of research that they are required to do. These researchers then quickly lose research skills because the skills are rarely practiced and become obsolete. In contrast, those who join NGOs or think tanks are in general still able to do high quality applied knowledge research, although NGOs and think tanks are structured in such a way that these researchers also take on a large number of concurrent and short-term research projects. At least, these researchers can retain and improve their research skills. Many of the best researchers from universities, NGOs, or think tanks are then recruited by donors/MFIs, either as managers of research projects or to write policy briefs. The high quality peers at donors/MFIs allow these researchers to retain their research skills.

All the scenarios in the previous paragraph result in a lack of high quality base knowledge research. University and government researchers no longer engage in high-quality research; only a handful of NGO and think tank researchers undertake base knowledge uncommissioned research when they can find spare time; and researchers at donors/MFIs are mostly busy with managing research or writing policy briefs, and thus only have very little opportunity for base knowledge research despite having the skills and the infrastructure.

The rest of this section summarizes the demand and supply issues, focusing on both economic and non-economic constraints. The section then ends with an examination of the experience of two formerly active and now largely inactive research organizations.

Demand issues

The following demand issues prevail in the Indonesian research market:

1. The high level of demand for policy briefs from high-level government officials that cannot be supplied internally.

2. Donors/MFIs and government require mainly short-term and applied knowledge research. There is a distinct lack of funding for multi-year or base knowledge research.

3. There is generally no problem with the quantity of research demanded, but there is a polarization in the quality demanded. Donors/MFIs generally look for high quality research, while government agencies demand generally low quality research.

4. There is a lack of connection between the applied knowledge research produced or contracted by government research offices and the policy briefs demanded by high-level policymakers.

5. Inefficient research spending by the government due to cumbersome procurement and inflexible budgeting procedures. The problem is worsened by demands of kickbacks to winners of research contracts (and choosing organizations willing to provide the highest kickback as winners) and a lack of skill to manage contracted research.

6. In order to fulfill the unmet demand for policy briefs, donors/MFIs recruit the best Indonesian researchers from domestic research organizations to mainly work on policy briefs or non-research activities. This further reduces the opportunity that those researchers have to produce base knowledge research.

Supply issues

In general, research organizations appear to be able to earn sufficient income to continue operating. In addition, non-government researchers appear to earn a relatively sufficient take home pay. However, the following economic factors constrain the ability of these organizations to produce high quality research.

1. Lack of ability for organizations to build an endowment or receive a substantial core funding results in these organizations chasing research projects in order to survive.

2. The lack of financial security is one of the main causes for many research organizations to have a salary structure with a large project component and a small fixed component. This in turn affects the behavior of researchers and reduces their opportunity to conduct base knowledge research that is mostly uncommissioned.

3. Although researchers working in organizations that provide a fixed income do not have to chase projects, they are also unable to spend sufficient time to undertake high quality research. Government researchers earn low incomes and thus have to supplement their income with non-research activities or low-quality short-term research projects. Think tank researchers are assigned a large number of projects by their organizations because the demand for research leans heavily towards short-term projects. Finally, donor/MFI researchers must cater to ad hoc requests by the government or do other non-research activities.

The results of the economic constraints above are:

1. A tracking of suppliers into either government contractors, focusing on low-quality research, or donor contractors, focusing on high quality research.

2. A distinct lack of time and opportunity to engage in base knowledge uncommissioned research, or to turn high quality applied knowledge products into academic publications.

3. A severe lack of knowledge accumulation. Most researchers are losing their specialization and becoming jack-of-all-trades. In addition, those working in organizations specializing in government contracts quickly lose their research skills permanently.

On the other hand, the non-economic constraints are:

1. Lack of research and travel funds, especially multi-year research funds.

2. Lack of mentorship and capacity building, including access to senior and more established researchers and lack of further training to improve research skills.

3. Lack of a research environment, including the difficulty in getting one's work peer-reviewed, a lack of access to the literature, and a lack of opportunity to exchange ideas.

Experience from historic research organizations

Interviews were conducted with the founders of two respected and formerly well-known private research organizations which are now largely dormant. The Center of Economic and Social Studies (CESS) the Center for Agricultural Policy Studies (CAPS) were very active during the 1990s and produced quality products used in policy decision-making.

The establishment of the two organizations was generated by (different) groups of young, educated economists in the years around 1990 in response to the perceived lack of sound, independent policy research in Indonesia. CESS focused on poverty, rural development and SMEs, while CAPS focused on agricultural and rural development. Both organizations started with some collective financial backing, although the amount was never large enough to serve as an endowment. Neither ever received core funding from donors.

CESS operated solely on a commercial contract basis and worked mainly with donors. The staff did not work directly with the government because they refused to pay kickbacks. In contrast, CAPS did some contracting and tried to attract independent researchers who were able to bring funds to their own activities – CAPS' main vulnerability was the lack of a secure financial footing. The founders hold somewhat different views on optimal salary structures: Prof. Tambunan believes that for a small firm, a small fixed income with a larger project component is the most feasible and yields the best staff productivity. Dr. Dillon feels the best

arrangement for staff payment is a modest salary that is adequate for basic family maintenance topped by additional payments for completed research products.

Both organizations have scaled down activities from their peak in the mid-to-late 1990s. Bulog (the state logistics agency) had been a strong supporter of CAPS policy work, but this funding diminished after the Asian Financial Crisis of 1997-2000 and the government reforms that changed Bulog's role. CESS reduced its research activities in 2005 and now focuses only on teaching – they conduct an annual one-month training course on rural development for officials and NGOs from other developing countries as part of the South-South initiative, funded by GoI and Japan.

The founders felt there are several factors that are important for an organization to not just survive, but to also produce high quality research. First, an organization needs to have a *substantial endowment* to be independent and neutral. Second, *human resource development* must be a continuous process. This includes establishing strong working linkages with international institutions because the links are instrumental in exposing staff to different ways of thinking and providing them with a broader experience, establishing international standards for quality, and to assist in ensuring the institution's independence.

VI. Policy Recommendations

The aim of this study is understand whether economic constraints play a major factor in the apparent low quality of research in Indonesia. In addition, there are a number of non-economic constraints that must be addressed in order to improve the quality of research in Indonesia. Policy recommendations are classified into three parts: supporting individual researchers, supporting research organizations, and increasing demand for high quality research at the base and applied knowledge levels.

All recommendations below require substantial financial investment. There are, however, two important conditions for any of the recommendation to have a chance to succeed. First, any initiative must be long-term, possibly taking over a decade, for any visible improvements to occur. This may be a major issue for donors, given their current focus on short- to medium-term initiatives. However, implementing any recommendation below only for a relatively short time would be pointless. Second, these initiatives must be designed in such a way that results in researchers or organizations self-selecting themselves to the initiative.

Creating and supporting individual researchers

There was a sentiment among the respondents that the current education system in Indonesia is not suitable to create high quality researchers. As one respondent says, "In Indonesia, we have an education industry rather than a true effort to develop knowledge." Therefore creating a high quality researcher includes providing doctoral scholarships abroad. Specifically for AusAID, the Australian Development Scholarship could be slightly modified to target high-quality researchers with a master's degree to take on high quality doctoral studies in Australia. Currently, only 10 percent of the scholarship is for doctoral studies, with two-thirds offered to the public sector category. An increased allocation for doctoral studies and less focus on the public sector category would surely help more high quality budding researchers attain the education level needed for high quality research.

The second aspect in creating high quality researchers is to provide access to mentoring by senior researchers. In addition to mentoring experienced during doctoral studies, short-term visiting fellowships to world-class universities or research organizations would also expose researchers to best research practices. Similarly, implementing a scheme that invites a leading scholar to Indonesia for an extended period of time to work with researchers at a research organization would achieve the same goal.

In addition to creating new cohorts of high quality researchers, the following activities need to be implemented to support current researchers. Firstly, funding might be provided that allows a researcher to 'buy back' his or her time to enable a serious uncommissioned research undertaking. The funds would basically be used to pay for a researcher's sabbatical, allowing him or her to pause from engaging in short-term research contracts while ensuring that the financial situation of both the researcher and the organization he or she works in is not compromised. Secondly, a competitive research grant that is large and flexible enough to allow a researcher to engage in a topic of his or her choosing. In addition, the grant must allow for a multi-year research undertaking. The third activity is one that allows a researcher to disseminate the research findings and receive rigorous feedback. This would include a travel fund to participate in international conferences and also visiting fellowships to universities or research centers outside Indonesia.

A scheme adapted from the Australian Research Council Discovery Project scheme would be a good starting point for the two interventions discussed in this paragraph. This scheme is described in more detail in Appendix 2. Provisions could be made in the Indonesian adaptation to pay for the researchers' salary (like the Discovery for Early Career Research Awards) and fund research projects up to three years with a relatively open research topics

and budget item allowance. However, any attempt to adapt the scheme to Indonesia must be accompanied by a careful selection of experts who will act as assessors. In addition, the award decision must be made transparent, to ensure that all research projects are awarded based on merit.

Supporting research organizations

As repeatedly mentioned by most of the respondents, a research organization needs a substantial endowment or core support in order to produce high quality research. A sufficient endowment would allow an organization to stop chasing projects and focus on uncommissioned research. Internally creating an endowment appears to be almost impossible for a research organization, because of the low profitability of doing rigorous high-quality research. Therefore, expecting a research organization to 'graduate' and stop needing external core support is unrealistic. And this is not specific to Indonesia. All high quality research organizations around the world either receive an endowment or continue to need external core support. An example for the latter is the Indonesia Project at the ANU, which continues to receive core support from AusAID despite having been around for almost 50 years.

To our knowledge, there is no constraint in terms of Indonesian regulations or laws that would not allow any donor agency to invest a substantial amount of endowment funds in a domestic research organization.

Improving the government's demand for research

The most difficult task is to improve the government's demand for high quality research. Identifying champions inside the government is a necessary condition. As an example, the mayor of the City of Pekalongan managed to get an additional Rp. 500 million budget annually for a poverty monitoring system approved by the local parliament, despite the fact that the city's annual research budget is only Rp. 50 million. Moreover, improving the government's capacity to manage research is critical, although very difficult to achieve. These initiatives may involve giving doctoral scholarships to civil servants, but the more difficult challenge is to reform the human resource practices that do not reward high quality research and impede any attempt to build critical mass.

Factors donors need to consider

There are several factors that need to be considered by donors. First, the choice to focus more on individual-level interventions or organization-level interventions must be carefully considered due to limited resources. There may be an opinion that supporting organizations is more sustainable than supporting individuals because organizations hold capacity and the

structures to support researchers. Based on our fieldwork, however, there are only very few organizations that have the capacity and structure to produce high quality researchers because there is a distinct lack of qualified researchers working within these organizations. Therefore, the necessary sequencing in order to improve knowledge sector in Indonesia is by first supporting high-potential individuals – both through doctoral scholarships outside Indonesia and multi-year research grants – and then working with some of these individuals to institutionalize a rigorous research culture and practice in a research organization, either by improving existing organizations or by creating new ones.

Based on the condition above, implementing interventions that support individuals may be a better strategy in the long-term, because these individuals would be able to establish themselves as high quality researchers and perhaps mentor younger cohorts of researchers. Organizations can come and go, along with core funding invested in them, but investment in a person will last for the life of the individual. In addition, we observe many organizations that rely heavily on one or two individuals. This indicates that there is a shortage of Indonesians that not only could undertake high quality research but also lead an organization. Therefore, investing in individuals would be a direct response to this shortage.

If donors want to support existing research organizations, it would be more productive to choose one or two high potential organizations to be significantly supported over a medium-to long-term, so that they can act as examples of ideal research organizations. Providing support to a larger number of organizations, resulting in each organization receiving smaller assistance, may not be the most effective method.

Second, ceasing to provide core support to an organization that is yet to be financially sustainable may result in the organization to engage in more non-research activities, such as training, or to target high-level demand such as policy briefs. In any case, the result would be even less base knowledge research.

Third, a successful endeavor to improve the government's demand for high quality research will leave many organizations that specialize in low quality contracts without any source of income. These organizations would be very likely to then start targeting local governments. Fourth, although all of our recommendations above would involve a substantial investment, some initiatives are bound to be more efficient and cost-beneficial than others. At the outset, there is no way of predicting which initiatives are the most efficient. Therefore, any initiative would need to be accompanied by an impact evaluation mechanism from the outset, allowing a stakeholder to measure the efficiency of an initiative.

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Appendix 1. Respondent Organizations

Akatiga

AusAID

Badan Perencanaan Pembangunan Nasional

Bank Danamon

Boston Consulting Group

Center for Agricultural Policy Studies (CAPS)

Center for Economic and Social Studies (CESS)

Centre for Strategic and International Studies (CSIS)

Demos

Economic Research Institute for ASEAN and East Asia (ERIA)

Ford Foundation

Indonesia Corruption Watch

Kementerian Perdagangan

Laboratorium Penelitian, Pengabdian pada Masyarakat, dan Pengkajian Ekonomi - Universitas Padjajaran (LP3E)

Lembaga Ilmu Pengetahuan Indonesia (LIPI)

Lembaga Penyelidikan Ekonomi dan Masyarakat – Universitas Indonesia (LPEM)

Lembaga Penelitian, Pendidikan dan P auenerangan Ekonomi dan Sosial (LP3ES)

Pemerintah Kota Pekalongan

SMERU Research Institute

Strategic Asia

The Asia Foundation

Tim Nasional Percepatan Penanggulangan Kemiskinan (TNP2K)

Universitas Gadjah Mada

Universitas Indonesia

USAID

World Bank

Yayasan Persemaian Cinta Kemanusiaan (Percik)

Appendix 2. Australian Research Council's Discovery Project Scheme[24]

The Australian Research Council (ARC) is an authority within the Australian Government's Innovation, Industry, Science, and Research portfolio. One of the roles of ARC is to manage the National Competitive Grants Program, a significant component of Australia's investment in research and development. The National Competitive Grants Program (NCGP) funds research *and* researchers, implying that the program pays both the research costs and the salary of the researchers. NCGP comprises of two main elements – Discovery and Linkage. This Appendix only discusses the former.

The Discovery Project scheme provides funding for basic and applied research. It is open to any employee of eligible organizations, which include Australian universities and Australian publicly funded organizations not directly funded to carry out research, but with research-related purposes and objectives (such as museums). In the 2012 Scheme, the level of funding provided is between AUD 30,000 and AUD 500,000 per annum, for a maximum of three consecutive years. The budget items supported include personnel (research assistants), equipment, travel cost, project dissemination, and access to research or infrastructure facilities. The scheme, however, does not pay for salary of the researchers. The total budgeted expenditure for the Discovery Project in 2011-12 (which pays for the third year of projects approved in 2010, the second year of project approved in 2011, and the first year of projects approved in 2012) is around AUD 510 million. From the budget, 98 percent is used to fund the research projects.[25]

The assessment of proposals submitted to the Discovery Project is undertaken by the ARC using independent assessors, College of Experts, and other ARC committees. The proposals are considered against eligibility criteria and compliance with funding rules, and then ranked. If successful, the project will be given a budget allocation. The success rate of an ARC Discovery Project application is 20 percent.

The Discovery Program has a separate scheme for young researchers, defined as within five years of being awarded a PhD, called Discovery Early Career Research Award (DECRA). For projects commending in 2012, DECRA awards 200 three-year awards of up to AUD 125,000 per annum. This award is allocated to paying the salary of the DECRA recipient (AUD

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[24] This information is summarized from http://www.arc.gov.au/ncgp/default.htm, http://www.arc.gov.au/ncgp/dp/dp_default.htm, and http://www.arc.gov.au/ncgp/decra.htm.
[25] Source: ARC Agency Resources and Planned Performance, http://www.innovation.gov.au/AboutUs/FinancialInformationandLegislation/BudgetInformation/Documents/PortfolioBudgetStatementsARC2011-12.pdf, page 182.

85,000) and for research-related costs (AUD 40,000). Other than the fixed research budget, the other rules of DECRA are similar to the Discovery Project scheme.