THE PERFORMANCE OF NEWLY AUTONOMOUS STATE AGENCIES IN INDONESIA: A CASE STUDY ON 13 CENTRAL GOVERNMENT HOSPITALS

By

Taufik Damhuri

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of requirements
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Committee in charge:

Professor Jin PARK, Supervisor

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ABSTRACT

THE PERFORMANCE OF NEWLY AUTONOMOUS STATE AGENCIES IN INDONESIA: A CASE STUDY ON 13 CENTRAL GOVERNMENT HOSPITALS

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The creation of autonomous state agencies has been diffused all around the world as one of the major government reform agenda. Even though each country has different characteristic of the autonomous state agencies, the main idea remains the same. It is believed that the major cause why government agencies become slow, inefficient and cumbersome is the constraint. By removing that constraint and strengthening the accountability, it is expected that the performance of government agencies will improve.

With the same expectation in June 2005 under the big framework financial reform agenda, Indonesia created autonomous state agencies named Public Service Agencies. After five years, 104 government agencies have received permit to become Public Service Agencies. However, until now we still do not know whether this program is successful or not. Is it true that after transformation the performance of the agencies will improve? There is no single evaluation that has been done to compare pre- and post- transformation.

This thesis tries to examine the performance of autonomous state agencies in Indonesia. The sample data from 13 central government hospitals that automatically transformed in June 2005 might be not enough to represent the change of performance from all the agencies that have been transforming, and the performance indicator is highly related with the type of service, so this research could only represent the change of performance in healthcare service.

The writer examined the performance of the hospital covering period from 2001 to 2009, using statistic test individual t-test and wilcoxon signed rank test to test the significant of changes, and replicated the process that have been done by Marthur and Banchuenvijit (2007). The writer found the significant increase in the number of patient, but this positive growth does not accompanied by the improvement in other indicators such as profitability indicator and liquidity indicator. This condition caused the overall performance of the health care service not change significantly after transformation; the increasing number of patient happened more likely because of the change of habit of the doctor by stop referring their patients to other hospitals.

Dedicated to my Lovely Wife Rani Citraningsih
and my Little Angel Makayla Fakhira

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First of all, my gratitude is addressed to Almighty God, without his guidance it is impossible for me to finish this thesis. And also I would like to thank to Professor Jin Park and Professor Younguck Kang for a helpful assistance and a valuable comment during the thesis completion. I also want to express my gratitude to COLOMBO PLAN as an institution who has given me scholarship to KDI School.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS v

TABLE OF CONTENTS vi

LIST OF TABLES vii

LIST OF FIGURES viii

1 INTRODUCTION 1

2 LITERATURE REVIEW 5

2.1 Hospitals 5
2.2 Outline of Autonomous state agencies in Indonesia 8
2.2.1 Agencies in Financial Reform Agenda 8
2.2.2 The Flexibility of Public Service Agency 9
2.2.3 Implementation of Public Service Agencies 15

2.3 Performance: Definition and Dimension 17
2.3.1 Service Quality 18
2.3.2 Efficiency 20

3 RESEARCH HYPOTHESIS 22

4 RESEARCH METHODOLOGY 26

4.1 Data Collection Method 26
4.2 Data Analysis 27
4.2.1 t-test 27
4.2.2 Wilcoxon Signed-Rank Test 28

5 EMPIRICAL RESULT 30

5.1 Service Quality 30
5.1.1 Profitability 30
5.1.2 Liquidity 32
5.1.3 Revenue 33
5.1.4 Cost 34
5.1.5 Number of Patient 35

5.2 Efficiency 36

6 CONCLUSION 49

7 RECOMENDATION 52

REFERENCE 54

LIST OF TABLES

Table 1: Difference between Regular Government Agencies and Public Service Agencies 14

Table 2: Summary of Testable Prediction 24

Table 3: Total Margin 40

Table 4: Cash Flow Margin 40

Table 5: Return On Equity 41

Table 6: Days Cash on Hand 41

Table 7: Net Days Revenue in Account Receivable 42

Table 8: Outpatient Revenue to Total Revenue 42

Table 9: Patient Deduction 43

Table 10: Salaries to Total Expense 43

Table 11: Out Patient Growth 44

Table 12: Inpatient Growth 44

Table 13: Bed Occupancy Ratio (BOR) 45

Table 14: Average Length of Stay (AvLOS) 45

Table 15: Turn Over Interval (TOI) 46

Table 16: Bed Turn Over (BTO) 46

Table 17: Outpatient – Doctor to Patient Ratio 47

Table 18: Outpatient – Nurse to Patient Ratio 47

Table 19: Inpatient – Doctor to Patient Ratio 48

Table 20: Inpatient – Nurse to Patient Ratio 48

LIST OF FIGURES

Figure 1: Summary the Reason of Creation of ASAs 4

Figure 2: The Type of Hospitals Based on The Owner 5

Figure 3: Summary Evaluation Process to Become PSAs 16

CHAPTER 1

INTRODUCTION

The creation of autonomous state agencies has been diffused all around the world as one of the government reform agenda, government service always perceptive as slow, inefficient, and cumbersome. The main objective of this reform agenda is to create innovative and result-oriented public service. Another factor that encourages this movement is the increased global competitiveness, increasing government deficit, and demand for better public service (Thomas, 2006).

Wilson (1989) mentions that the main factors that cause government less efficient compared to private sector are because by government agency has more goals and constraints. Private sectors have a simple objective, their objective is only to create profit in the most effective and efficient way. While public managers have more complicated objective, compliance to the regulations are more important rather than create profit. The regulations are created to reduce the arbitrariness[1] of the officer but it creates tradeoff, reduces efficiency and responsiveness of the agency; that is why government agency is well known for its inefficiency and cumbersome. This condition also happens in Indonesia. Government agencies should meet so many procedures and regulations that control the daily operation, such as procurement regulation[2], Non-Tax Revenue spending procedures[3], rigid budget document revision

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[1] Arbitrary refer to official acting without legal authority, or with that authority in a way that offends our sense of justice.

[2] Procurement regulation is Keppres 80/2003, this regulation required the agency to conduct competitive bidding to provide equal chances to all contractors, and provide job to the lowest bidder. Because this regulation is too rigid in the implementation

procedures, government employee payroll system, employee recruitment procedures, and many more regulations that agency should obey.

The main idea of creation autonomous state agencies is trying to remove all the constraints that cause government agencies become inefficient. By doing this, it is expected that public managers can be more focus on their goal, more responsive to people need, and minimize political interference. Autonomous state agencies still work at arm's length of government, but they were given some managerial autonomy to carry out public task (Thiel, 2009).

Although the characteristic of autonomous state agencies are different in every country[4] (Pollitt *et al*. 2004), the main idea remains the same, that is "letting managers manage" and "making managers manage" (Shick, 1996). The central government or head of department gives more autonomy to the manager of the agency. In return they signed contractual performance agreement, where they promise to improve the performance of their agency. Granting more autonomy in operation is believed will enhance the efficiency and effectiveness of the government and also improve the quality of the services.

Inspired by the movement of bureaucratic reform in developed country, in

---

procurement process become inefficient because it cost a lot of time and money to held single auction process.

[3] Non-tax revenue spending procedures requires all agencies deposited all of his revenue in state treasury account, the can use their revenue if the activity already planned in budget document. The problem occur when the condition in the field is not same as the expected one when the budget document is made, because of that many agencies become slow and cumbersome.

[4] Executive Agency in UK, Next Step Agency in US, and Special Operating Agency in Canada are non discrete organization. But Independent Administrative Institute in Japan is independent public bodies, legally separated body from head department (Kiyoshi, 2006)

2003 Indonesia reformed their agencies by issuing three packages of States Financial Law[5]. Under this three regulations Indonesia has new paradigm in state financial management that is result based oriented, professionalism, and accountability and transparency.

Those three fundamental principles become the basis for setting new type of government agencies that give flexibility in the operation and financial management by emphasizing productivity, efficiency, and effectiveness. Each country has different name for this new entity, in Canada has been known as Special Operating Agencies (SOAs), United Kingdom labels it as Next Step Agencies, United States calls it Independent Agencies, in Indonesia it is called Public Service Agencies (PSAs)

The characteristic of Public Service Agencies are similar to Special Operating Agencies in Canada. These organizations are non separating government agencies, so it still has responsibilities to the line ministries. The government gives some level of managerial flexibility in exchange of promise to improve their service quality and financial performance.

The first Public Service Agencies were created in June 2005, when government regulation no 23/2005 was issued. Thirteen Central Government Hospitals that previously had legal entity as PERJAN[6] were automatically changed into Public Service Agency. Even though this policy has been carried out for five years, the successful rate of the program is still a big question. There is no single evaluation that has been done to these types of organizations. Public skeptics about

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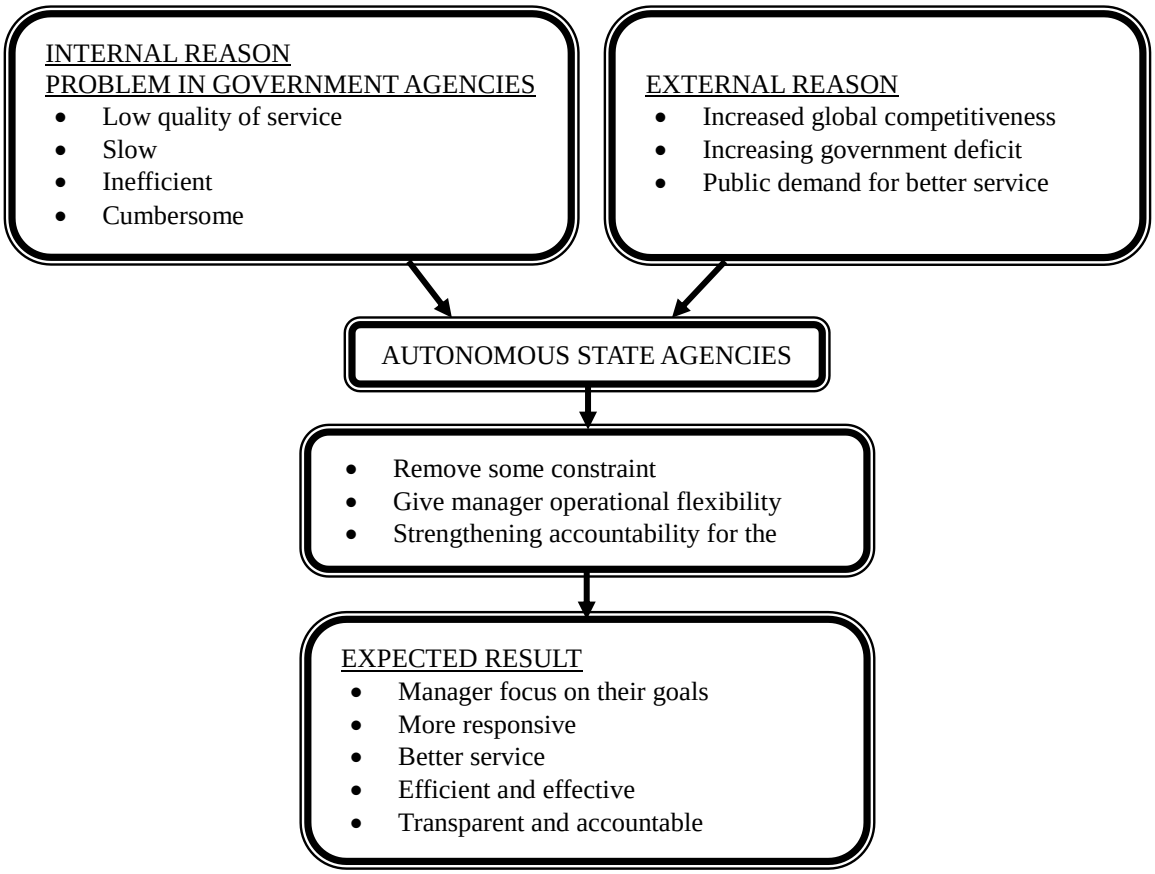
[5] Three packages of state financial Law is Act Number 17/2003, Act Number 1 /2004, and Act Number 15/2004

[6] PERJAN is one type of State Owned Enterprises with characteristic non discrete organization. In 2003 State Owned Enterprise eliminate this type of organization.

the successfulness of this program, some of regulators already try to cancel some of the flexibility because they think that there are no linkage flexibility and performance. Evaluation is difficult because there are no clear criteria about the performance of government agencies: what are the indicators, how to measure it, and how can we say that it already successful. The purpose of this paper is trying to answer all of these problems, by taking 13 central government hospitals that automatically transformed into Public Service Agencies in 2005 as the sample. The performance indicator highly depends on the type of service provided. This research might not be enough to answer the impact of transformation to all type of organization, but it is enough to see the impact of transformation on health care service.

Figure1
Summary the Reason of Creation of ASAs



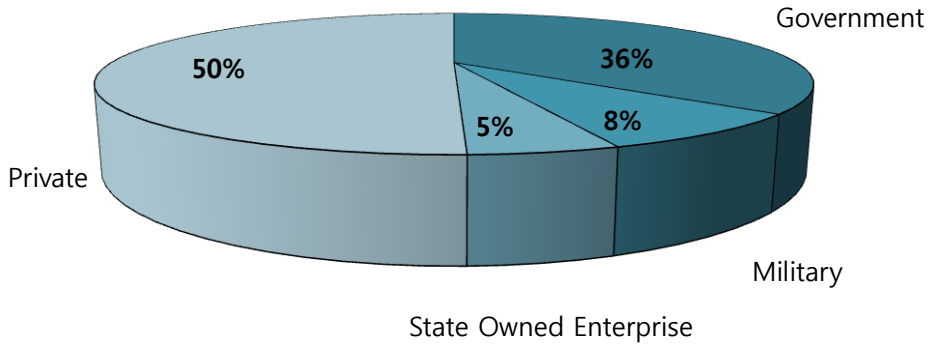
CHAPTER 2

LITERATURE REVIEW

2.1 Hospitals

The Hospitals are business entities that provide health care service to the society. Hospital management is very unique in sense of setting goal. As a business entity their goal is to generate profit so they could change and upgrade their facilities to improve the service quality and to make sure that the organization is going concern. On the other side as a health care service provider they also have social missions to provide health treatment to all people equally; they cannot reject to provide health care service to the poor only because these people cannot pay for the service. Each hospital has their own preferred goal and it is highly depends on the type of the hospital and the owners.

Figure2
The Type of Hospitals Based on the Owner



In 2009, the number of hospitals in Indonesia was 1523 hospitals (MOH, 2010), this figure increased 11% (151 hospitals) from previous year. Of the total 1532 hospitals, 552 of them are owned by central government and local government. These type of hospitals are called government hospitals. 125 hospitals are controlled by

military institutions such as police or army. 78 hospitals are owned by State Owned Enterprise. And the rest 768 hospitals are owned by private sector.

Government hospitals have a function to provide health care services to public, especially to the poor. This type of hospital is required to provide third class in-patient facilities with at least 25% of the capacity. Theoretically all the poor that come to third class in-patient facilities guaranteed to get free health care service, the government promised to pay all the charge.

Hospital funding comes from two sources: from the government, and from the patients. The fund from the government is distinguished into two types, the first type is allocated on a regular basis every year through the budget document whose the budget allocation could be in form of operation subsidy or investment subsidy; and the purpose of this subsidy is to make sure government hospitals service fares still affordable by the public. The second type of government subsidy is a special program. This special program is not always held every year because it depends on President Policy, for example, current five year policy is to provide free health care service to people who have income below poverty line. This people will receive a special purposes card, which can be used if they go to the hospital, the payment will use reimbursement method so the patient will not be charged for the service. For this second type of government subsidy the patient can choose any type of hospital, so the patient does not necessarily go to the government hospitals only.

The fund from patient is obtained in the form of fee for service. The hospitals usually have four classes of services, the lowest one is the third class, followed by second class, next is first class and the best class is VIP. All patients in every class receive same health treatment; the differences are in the number of bed and the facilities in the room. For government hospitals the fares are based on calculation of

unit cost. The third class fare is unit cost less subsidy, the second class fares is unit cost recovery, and for first class and VIP fares is unit cost plus profit. What distinguish government hospitals with other types of hospitals are they work at arm's length of government, and to operate the hospitals they must follow rigid procedures as government institutions. Therefore, government hospitals are still considered to have low service quality.

Military hospitals in some ways are similar with government hospitals; the source of fund comes from Government Subsidy and patient income. The difference is that the operators of the hospitals are come from military, and the patients are mainly come from military or people who are in trouble with law.

The hospitals owned by State Owned Enterprises are different from hospitals that have legal entity as State Owned Enterprises. This type of hospitals is built and owned by State Owned Enterprises but they have discrete management. In addition, the parent organization didn't give any subsidy, so this type of hospital is a purely profit-oriented organization. However, the employee of parent organization will get special discount.

The last type is private hospitals. Even though this type of hospitals is a purely profit-oriented organization, the government still requires them to provide the third class in-patient facilities, at least 10% of the capacity. Few of the hospitals also run government program to provide healthcare service to the poor, they will receive the payment from government through insurance company using reimbursement method.

2.2 Outline of Autonomous State Agencies in Indonesia

2.2.1 Agencies in Financial Reform Agenda

One of the Indonesian financial reform agenda is the transformation from "Cost Based Budgeting" to "Performance Based Budgeting". With this new budgeting system, budget allocation is no longer focusing on input side (how much money will spend?) but more focused on output and outcome (what the target need to achieve?). Government expects that with this new system agencies will spend the money more efficiently because every monetary unit's expense will be accounted for. Further-more, government expects that this new system will become a solution to improve the service quality.

This new budgeting approach is suitable for the agencies that provide goods and service to the society such as hospital and university whose targets and products are very clear. This performance based budgeting is regulates by Law Number 17/2003 article 14 which states that every government agency must make budget planning based on the performances that want to be achieved.

Law Number 1/2004 provides the foundation to create autonomous state agencies in Indonesia called Public Service Agencies, in order to improve efficiency and service quality. This organization is non discrete type, so even though they are given some managerial freedom (flexibility), they are still accountable to their line ministries.

With basic principles that are stated on both regulations, in June 2005 by Government Regulation Number 23/2005 new agency called Public Service Agencies (PSA) was born. Under this new type of organization, government agencies implement the performance based budgeting that combined with managerial flexibility in return for stronger accountability for the result. It is expected that Public

Service Agencies will become pioneer in public sector financial management reform to improve efficiency and service quality of the government agencies.

2.2.2 The Flexibility of Public Service Agency

In order to improve the performance of Public Service Agencies, they are granted ten flexibilities. These flexibilities are regulated by Government Regulation Number 23/2005. Some flexibility needs more detailed technical procedures or regulations to implement; the detailed procedures must be issued by the Ministry of Finance.

The first flexibility is freedom to hold their revenue. Based on Government Regulation Number 23/2005 article 14, Public Service Agencies can keep all their revenue on registered bank account; they are released from the obligation to transfer their entire revenue to treasury account. For regular government agencies, they must transfer all their revenue to treasury account within 24 hours the longest, and they can withdraw it using the procedures of non-tax revenue (PNBP). Many government agencies complain about this procedure because not all revenue can be withdrawn, only few revenue types that have been set by Government Regulation[7] (PP) that can be drawn, others than that categorized as general revenue[8] cannot be withdrawn. This condition causes many government facilities unable to fully utilize. By giving the flexibilities government expects that managers could maximize the use of their facilities to obtain additional fund so it can reduce state budget burden.

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[7] Government Regulation is signed by President. But before president could signed the draft, the house of representative must be agree first, thats why government regulations that regulate the tariffs took a long period of time to issued.

[8] The example of general revenue is room rent, building rent, and other asset rent as long as their main public task is not lending government asset.

The second flexibility is freedom to spend money. Based on Government Regulation Number 23/2005 article 15 and the Ministry of Finance Regulation Number 44/PMK.05/2009, Public Service Agencies spending is allowed to exceed budget ceiling on budget document as long as the source of fund is derived from agencies revenue (non-tax revenue and non government grant) and it is still under threshold. The revision of budget document (DIPA) can be done later before mid December. Many government agencies are complaining about red tape in the revision of budget document. Regular agencies are forbidden to do some activities that are not allocated in budget document. Sometimes, revision process takes a long period of time that causes the revised budget document to be issued at the end of the year; so it is difficult to spend the money. This condition is also happen to activities funded by grants, that is why many donor countries refuse to provide grants in form of money, they prefer to give goods or services. This flexibility is expected to increase agency responsiveness.

The third flexibility is freedom to conduct short term investment. Based on Government Regulation Number 23/2005 article 16, Public Service Agency could keep their money on registered bank account and could manage their idle cash to invest on low risk financial investment, such as a term deposits or government bond. The revenue from the investment can be treated as additional revenue. Regular government agencies treat interest as general revenue type so they could not use it.

The forth flexibility is freedom to lend. Based on Government Regulation Number 23/2005 article 17, Public Service Agencies are allowed to provide receivable to customer. This flexibility is given due to consideration that some of the goods and services (health and education) are provided to the poor and sometimes they could not pay it. The agencies cannot reject to provide the service because it has already become

the responsibility of the government to provide service to the poor. When the customer could not paid in time the agencies treat it as receivable. The central government sometimes reimburses this receivable if the receivable is from the the poor who have a social security number. If they did not have the social security number they can pay it in installment, but if they still cannot pay it the agency is allowed to write off receivable based on the level of authority as stipulated in Ministry of Finance Regulation Number 230/PMK.05/2009.

The fifth flexibility is freedom to acquire debt. Based on Government Regulation Number 23/2005 article 18, Public Service Agencies could have short term debt to finance operational expenditure and long term debt to finance investment expenditure. Short term debt is needed to handle cash shortage that is under certain condition when the agencies do not have enough cash to buy goods or services, but the goods and services are important to make sure daily operation run well; then, the agencies are allowed to buy those goods and services by credit to the supplier. Flexibility to obtain long term debt is given due to consideration that the increasing budget deficit might caused the government unable to allocate capital expenditure so the agency could seek third party fund to finance their capital expenditure. Although government regulation number 23/2005 already gives permission to the Public Service Agencies to have long term debt, detail technical procedures for long term debt have not been issued yet. Ministry of Finance Regulation Number 77/PMK.05/2009 only regulates short term debt, so until now public service agencies cannot implement the flexibilities for long term one.

The sixth flexibility is freedom to set customize procurement procedures. Based on Government Regulation Number 23/2005 article 20 and the Ministry of Finance Regulation Number 08/PMK.02/2006, the procurement process in Public Service

Agencies is allowed to be exempted from the provision applicable to the procurement procedures in government sector (President Decree Number 80/2003) if Public Service Agencies could prove that the new procurement process is more effective and efficient. The regular procurement procedure in government sector (President Decree Number 80/2003) is well known for its rigidity; they set the same standard for all government types. The regular government procedure is good for non service type of government agencies, because it took a long period of time for procurement process, beside that the price ceiling for each type of procurement process is too small.

The seventh flexibility is freedom to manage the asset and write-off inventory. Based on Government Regulation Number 23/2005 article 21, Public Service Agencies could write off inventories based on economic consideration such as being expired, obsolete, or no longer can be used. Regular government agencies must pass through long bureaucratic process to write off expired or obsolete inventories, so it is easier for them to pile up in the warehouse causing inefficient usage of warehouse. The freedom to manage fixed asset still become controversy in the Ministry of Finance because Directorate General of State Assets still does not agree to provide flexibility on the freedom to manage the asset or to make cooperation with the third party to build fixed asset such as build transfer operate (BTO), build operate transfer (BOT), or fixed asset leasing. The Directorate General of State Asset thinks that is too risky if the agencies have this flexibility, they are afraid of misusing the asset or lawsuit from the third party.

The eighth flexibility is freedom to hire professional employee. Based on Government Regulation Number 23 /2005 article 33, in order to improve professionalism of Public Service Agencies, they can hire non civil servant professional employee. Regular government agencies could not quickly recruit new

employee, they should be publish recruitment process in national mass media, and the procurement process itself takes a long period time. If the agencies are not satisfied with the newly hired employees, they cannot easily fired that employee because when people become civil servant they have a life time guarantee not to get fired as long they do not break any law. This condition causes government employees become unprofessional, lazy and unproductive.

The ninth flexibility is get remuneration. Based on Government Regulation Number 23/2005 article 35, the management and employee of Public Service Agencies could get remuneration in the form of salary, fixed allowance, honorarium, incentive, bonus for achievement, sovereign, or pensions. The purpose of this remuneration is to increase professionalism and motivation of the employee to serve well. The salary of regular government employee is too small, it is even not enough to full-fill basic necessity. This condition cause many government agencies try find side job and encourage them to corruption.

The tenth flexibility is easiness to set custom service fares. Based on Government Regulation Number 23/2005 article 9, Public Service Agencies could impose service fares based on unit cost calculation and these fares could set only by the Minister of Finance. Fares for regular government agencies must be approved by house of representative and set by government regulation (signed by President). In average it takes more than three years to set fares for regular government agencies. When the fares are set, it is already underrate and not enough to cover daily operational cost. Even though Public Service Agencies could easily customize their fares, they still could not act arbitrary on it because before new fares are signed by the Minister of Finance, it must be evaluated first by selected task force to make sure the new fares will not become the burden for the poor.

The difference between regular government agencies and Public Service Agencies are summarized in Table 1.

Table 1
Difference between Regular Government Agencies and Public Service Agencies

		REGULAR GOVERNMENT AGENCIES	PUBLIC SERVICE AGENCIES
1	Revenue	Must be deposited in treasury account as soon as possible and can be use it by using "non-tax revenue" spending procedures	Can be kept in registered bank account and be used in the most effective and efficient way to achieve target in planning document
2	Expenditure	Must comply to budget document, can be revised but it cost lot of time and money	Can spend exceed budget ceiling and flexible to revised as long consistent with organization objective and can be accounted
3	Cash management	Cannot hold cash in hand or bank more than allowed amount	Flexibility to conduct short term investment and manage the cash according to organization requirement
4	Receivable management	Cannot have receivable	Could give receivable in order to improve government service
5	Debt management	Cannot have debt	To handle short time deficit could borrow money
6	Procurement procedures	Must accordance rigid government regulation (KEPPRES 80)	Could make customize asset management that suitable for organization
7	Asset management	Don't have autonomy	Have a freedom to maximize utilize their asset such as rent it, and PSA could write off inventory if it is needed
8	Human resources	Human resources are all civil servants	Could recruit professional employee to improve performance
9	Remuneration	Salary according to standard government salaries	Could propose performance based salaries that higher than original
10	Service fares	Service fares must be based on government regulation that need legislative agreement	Fares set by Ministry of Finance

2.2.3 Implementation of Public Service Agencies

Not every government agency can easily become Public Service Agencies. Only government agency that has met the substantive, technical, and administrative requirements that can became Public Service Agencies.

Substantive requirements are met if the government agency conducts public service related to providing goods or services (such as hospital or university), control special economic zone (such as free port zone), or manage special fund (such as revolving fund).

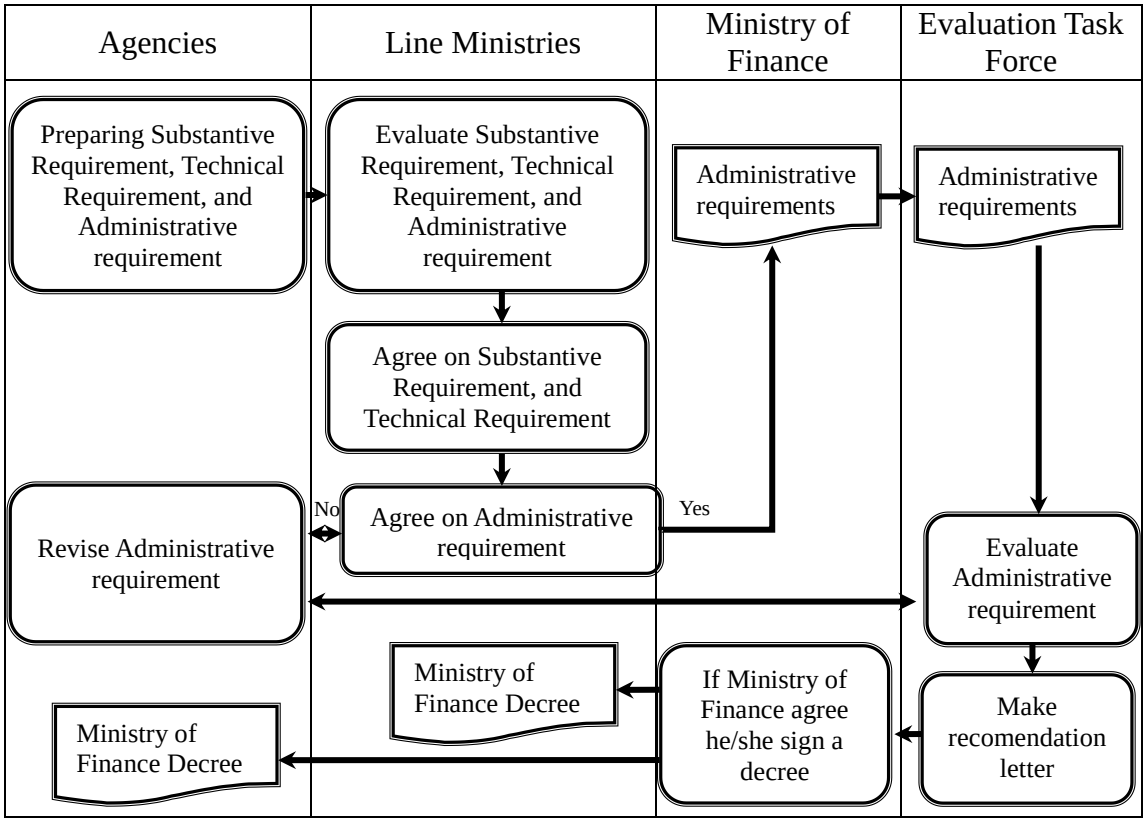
Technical requirements are met if the service performance of government agency could be enhanced by transforming it into Public Service Agency, and in the current condition the agency has a good financial performance.

Administrative requirements are met if government agency present six documents that explained about past condition, current condition and the target (promise) that want to achieve by the agencies if they transform to public service agencies. The documents are a contractual performance agreement, organization structure, business strategic plan, financial report, minimum service standard, and the latest audit report or statement of willingness to audit.

Every government agencies who want to become public service agencies must receive approval from their line ministries. The line ministries will evaluate their substantive requirement and technical requirement. If the agency already passes the evaluation, then the line minister will send the proposal along with six documents of administrative requirements to Finance Minister. Before finance minister give approval, he/she will ask recommendation from the assessment task force.

The assessment task force[9] will evaluate the documents of administrative requirement, evaluation focused on the performance target of the agency under four dimension service, finance, human resources, and administrative. If the task force thinks the agency is ready and feasible to become public service agency, they will send recommendation letter to Finance Minister, if he agrees to the recommendation he will issue Finance Minister Decree.

Figure 3
Summary of Evaluation Process to Become PSAs



Based on the recommendation of the task force, there are two type of public service agency, the first type is have full flexibility, while the second type only get

[9] Assessment task force member is representatives from each directorate general under Ministry of Finance that linked with the flexibility.

half flexibility[10]. Public service agencies that received half of the flexibility is the agencies that fulfill all requirements, but the task force did not satisfied with the quality of administrative requirement, they think that the organization is feasible to become public service agency but the human resource is not ready. Public service agencies with half of the flexibility give a chance to improve in two years, if within the period they did not make any progress, all the flexibility will be written off so they became regular government agencies again.

At the early stage 13 central government hospitals that have legal entity as PERJAN automatically transformed to Public Service Agency in June 2005, but it is effectively implemented in January 2006 (Law 23/2005). Until November 2010 there are 104 government agencies that have transformed into Public Service Agencies, most of them provide health service (41.3%) and education service (41.3%).

2.3 Performance: Definition and Dimension

The main objective of creating Public Service Agencies is to improve service quality and operating efficiency in government organization. Performance dimension (service quality and efficiency) for Public Service Agency is highly dependent on what type of service provided. Reconsidering the availability of data (four years before and four years after), in this paper the writer focuses on the evaluation of 13 central government hospitals that set automatically become public service agency in June 2005. So in this paper the writer is going to use performance definition and dimension for health care service (hospital).

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[10] Public Service Agency with half of flexibility only did not receive flexibility in Debt Management, Procurement procedures, and aset management

2.3.1 Service Quality

Health care service quality refers to satisfaction level, it is measure the ability of hospital to satisfy the patient as their main customer, it is evaluate doctor attitude, nurse treatment, hospital cleanliness, waiting time, cost and benefit of the treatment, and include hospital hospitality. Generally to measure hospital service quality we must take satisfaction survey, but due to constraint of location and time, survey method is difficult to implement.

Reconsidering that limitation writer try to find alternative way to measure hospital service quality. Based on some studies high level customer satisfaction will lead to higher customer loyalty which in turn, lead to higher profits (Homburt et al., 2005). For private sector hospital fares might play an important role in increasing profit, but for PSAs Hospital fares are controlled by Ministry of Finance, so any increasing fares must be approved first, so price factor can be control. Other people might think that the hospital could do some bad thing in order to increase fares such as lengthened stay in hospital that causing overstay of the patient or use over-prescription, this thing might be success to increase hospital profit in a short run, but people have a freedom to choose hospital they will compare one hospital to another hospital, so in the long run people will start realize that they have been cheated, and the result is as expected the profit that previously increase will decrease again. Using this assumption, writer tries to analyze improvement in service quality through hospital financial performance and growth in the number of patient.

Writer use CAH Financial Indicator Report© to analyze financial performance. This indicator has been used to measure financial performance for Critical Access

Hospitals (CAHs)[11] in USA. The indicator developed by University of Carolina at Chapel Hill supported by a technical advisory group of individuals with extensive experience in rural hospital finance and operations.

Originally CAH Financial Indicator Report© has 20 indicator under five performance dimension of profitability, liquidity, capital structure, activity, and other, but due to difference financial report system some of the data are not available, so writer only can use eight indicator from three performance dimension profitability, liquidity, and activity (revenue and cost).

Profitability dimension measure the ability of hospital to generate revenue using available resources. Under this dimension writer use three indicators, first Total Margin Indicator, it is measures the control of expense relative to revenue, second Cash Flow Margin Indicator, it is measure hospital ability to generate cash flow from providing patient care service, third Return on Equity Indicator, it is measure the net income generated by equity investment (fund balance)

Liquidity dimension measure the hospital ability to meet cash obligation in timely matter. Under this dimension writer use two indicators, first Day Cash on Hand Indicator measures the number of days an organization could operate if no cash was collected or received. Second Net Days Revenue in Account Receivable Indicator measure the number of days that it takes an organization to collect its receivables

Revenue dimension measure the amount and mix of different source of revenue. Under this dimension writer use two indicators, first Outpatient Revenue to Total Revenue, these Indicator measures the percentage of total revenue that is

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[11] Critical Access Hospital is a hospital that receives cost based reimbursement by Medicare. The purpose of this aid is to improve financial performance of the hospital.

sourced from outpatient revenue. Second Patient Deduction Indicator measures the allowances and discount per monetary unit of total patient revenue.

Cost dimension measure the amount and mix of different types of cost. Under this dimension writer only use one indicator, Salaries to Total Expense Indicator measure the percentage of total expense that are paid as labor cost.

2.3.2 Efficiency

In a term of economic scale Efficiency refers to the amount of ratio resourced used to produce a certain number of outputs, smaller the number means that organization is more efficient (Wilson, 1989). For government agency it is a little bit difficult to link between input and output, especially in hospital, usually they have a multiple service (some of the hospital have more than 100 type of service) that use same input (resources), the other way to analyze efficiency is evaluate how hospital maximizing the usage of their resources. Hospitals have much kind of resources that depend on the service they provide, so it is difficult if we evaluate the usage on every resource. So for the analysis writer decides to choose resources that are generally owned and use by every hospital it is doctor, nurse, and bed.

Ministry of health of Indonesia use indicator such as Bed Occupancy Rate (BOR), Length of Stay (LOS), Turn over Interval (TOI) and Bed Turn Over (BTO) to measure hospital facilities utilization level (MOH, 2008), all four indicator measure the level of bed utilization in hospital, this indicator might be not enough to represent hospital efficiency, so writer use another four indicator to measure hospital efficiency, it is Outpatient-doctor ratio, Outpatient-nurse ratio, Inpatient-doctor ratio, Inpatient-nurse ratio, this four new indicator measure the amount of patients that handle by each doctor and nurse in outpatient service and inpatient service.

Bed Occupancy Rate (BOR) is the ratio of inpatient service days to bed count days in the period under consideration. Ministry of Health of Indonesia set an optimal value for BOR is 60 – 85 %.

Average Length of Stay (AvLOS) is the average length of stay for hospital inpatients discharged during a given period of time. Ministry of Health of Indonesia set an optimal day number for AvLOS is 6 – 9 day.

Turn Over Interval (TOI) is the average number of times a bed changes occupants during a given period of time. Ministry of Health of Indonesia set an optimal day for bed not occupied is 1 – 3 day.

Bed Turn Over (BTO) is the number of times a bed, on average, changes occupants during a given period of time or the average number of admissions per bed per time period. Ministry of Health of Indonesia set an optimal turnover rate for one bed is 40-50 time.

CHAPTER 3

RESEARCH HYPOTHESIS

Kiyoshi Yakamoto (2006) suggest that granting more autonomy in management operation will make government agencies perform better, they will provide better service and operate more effectively and efficiently. More-over Michael Thomas (1996) mention that many governments all around the world try to adopt this kind of policy due to a numbers of reasons, such as "increased global competitiveness, increasing government deficit, and the demand for better service".

Reconsidering that reason, it is believed the transformation will lead to the better government agencies, they will provide better service quality that shown by improvement in financial indicator, and operate more efficient that shown by optimal resource utilization.

Profitability dimension show the ability of hospital to generate revenue using available resources, if the agencies able to maximize the utilization of their facilities, they can reduce unit cost per patient, so total margin indicator (TM), cash flow margin indicator (CFM), and Return on Equity indicator (ROE) after agencies transform will show higher percentage.

Liquidity dimension show the hospital ability to meet cash obligation in timely matter, this dimension is a little bit different with profitability dimension, we cannot said that high liquidity means better performance, if the liquidity is too high it can be indicated the hospital hold too much cash on hand or have a poor collection program for account receivable. CAH financial indicator for 2005 show average day's cash on hand in US is 60 days. Using American standard as a benchmark writer expected days of Days Cash of Hand Indicator is increasing after the agencies

transform but it should not exceed 60 days. Net Days Revenue in Account Receivable Indicator show the agency's ability to collect money, this indicator is predicted getting smaller because it assumed that after transform hospital management will getting better.

Revenue Dimension could give us a clear picture about a composition source of revenue, but it could not show how good the managements are. We cannot argue that when outpatient revenue to total revenue indicator show a decreasing number its mean hospital management doing something bad. From the hospital perspective in Indonesia inpatient was more beneficial rather than outpatient, because most of the outpatient revenue goes to the doctor, so if the hospitals want to improve their source of revenue to fund their daily operation, they need to encourage inpatient service. It is predicted after they transform the indicator for outpatient to total revenue will decrease.

Patient deduction indicator is predicted to decrease, because after they transform in to Public Service Agencies they will improve the service, so they can compete with private sector to provide service to non subsidy patient (VVIP and first class).

Salaries to total expense indicator under cost dimension is predicted to be decrease. Salary is overhead cost, so when the volume of service is increasing the percentage salaries to total expense should be decrease.

Number of patient is an indicator for improvement in service quality. If the hospitals provide better service more patients will come, transformation is expected will improve service quality, so it is predicted that number of patient for inpatient and outpatient will increase.

Table 2
Summary of Testable Prediction

Dimension and Indicator	Proxies	Predicted Relationship
Profitability		
Total margin	Net income / total revenue	$TM_A > TM_B$
Cash flow margin	((Net income – (contribution, investment, and appropriation + depreciation expense + interest expense)) / (net patient revenue + other income - contribution, investment, and appropriation)	$CFM_A > CFM_B$
Return on equity	Net income / Equity	$ROE_A > ROE_B$
Liquidity		
Days cash on hand	(Cash + marketable securities + unrestricted investment) / [(Total expense-depreciation) / Days in period]	$DCOH_A > DCOH_B$
Net days revenue in account receivable	Net patient account receivable / (Net patient revenue / Days in period)	$DRAR_A < DRAR_B$
Revenue		
Outpatient revenues to total revenues	Total outpatient revenue / Total patient revenue	$ORR_A < ORR_B$
Patient deductions	(contractual allowance + discount) / Gross total patient revenue	$PD_A < PD_B$
Cost		
Salaries to total expense	Salary expense / Total expense	$SE_A < SE_B$
Number of Patient		
Outpatient	Number of outpatient growth	$OP_A > OP_B$
Inpatient	Number of inpatient growth	$IP_A > IP_B$
Efficiency		
Bed Occupancy Rate (BOR)	(Occupied bed days/(number of bed x days in one year)) x 100%	$BOR_A > BOR_B$
Length of Stay (LOS)	Occupied bed/ Inpatient discharge (include death)	$LOS_A > LOS_B$
Turn Over Interval (TOI)	((number of bed x days in one year) – occupied bed days) / Inpatient discharge (include death)	$TOI_A < TOI_B$
Bed Turn Over (BTO)	Inpatient discharge (include death)/number of bed	$BTO_A > BTO_B$
Outpatient to Doctor Ratio	Number of outpatient/number of doctor	$ODR_A > ODR_B$
Outpatient to Nurse Ratio	Number of outpatient /number of nurse	$ONR_A > ONR_B$
Inpatient to Doctor Ratio	Number of inpatient/number of doctor	$IDR_A > IDR_B$
Inpatient to Nurse Ratio	Number of inpatient/number of nurse	$INR_A > INR_B$

The function of efficiency analysis is to evaluate whether the hospital has been utilize its resources in an optimally way. Under assumption before transformation hospital usually provide poor services that cause people reluctant to go to government hospital, so the resources was assumed still underutilized. After transformation it is expected hospital will provides better service, it is predicted more people will come so two indicator bed occupancy rate (BOR) and bed turn over (BTO) will increase, people feel more comfortable in the hospital so average length of stay

(AvLOS) will increase. The increasing of patient on the other side will cause less time unoccupied bed so turn over interval (TOI) will decrease, and the increasing amount of patient will cause the workload of the doctor and nurse are also increase so the ratio Outpatient to doctor ratio, Outpatient to nurse ratio, Inpatient to doctor ratio, and Inpatient to nurse ratio is predicted will increase.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Data Collection Method

This research used secondary data (financial report and performance report) from 13 Hospital that automatically transformed into Public Service Agency in June 2005. Those hospitals are Cipto Mangunkusuma Hospital (RSCM), Fatmawati Hospital (RSF), Persahabatan Hospital (RSP), Harapan Kita Heart Hospital (RSJHK), Harapan Kita Children and Maternity Hospital (RSABHK), Dharmais Cancer Hospital (RSKD), Hasan Sadikin Hospital (RSHS), Doctor Kariadi Hospital (RSDK), Doctor Sardjito Hospital (RSDS), Sanglah Hospital (RSS), Wahidin Sudirohusodo Hospital (RSWS), Mohammad Djamil Hospital (RSMD), and Mohammad Hoesin Hospital (RSMH). Financial data was retrieved from yearly hospital financial report, while the data of the amount of patient and bed utilization was retrieved from hospital performance report. Both of the reports were gathered from Ministry of Health and some others were from Ministry of Finance. Before transformation, all hospitals had an obligation to send their financial report and performance report to Ministry of health; and after the transformation they had an additional task to send both documents to Ministry of Finance.

The data used was from 2001 to 2009. The data within the period of 2001 to 2004 was treated as pre- transformation data, while data within the period of 2006 to 2009 was treated as post-transformation data. Data in 2005 was treated as year 0 and we removed it from the analysis because it contained both pre- and post-transformation data.

4.2 Data Analysis

4.2.1 t-test

To test the statistic significance of change from each indicator on each hospital, the statistical approach t-test with pooled variance was used. This method was choosen because it has been commonly used to evaluate the impact of reorganizations (Bilodeau et al, 2006) and it does not violated the assumption for t-test with pooled variance. It is showed by the fact that, both of the data pre- and post- transformations are independent, and the indicator evaluation, which was made on each hospital follows normal distribution, more over pre- and post- transformation data on each hospital, has equal standard deviation.

To test the hypothesis of each indicator on table 1 to each hospital, the writer following the process that was done by Marthur and Banchuenvijit (2007) on evaluating the effect of privatization. First, all proxies from each hospital for 9 year period from 2001 – 2009 were calculated. Then, the mean value of pre-transformation (2001–2004) and post-transformation (2006–2009) data for all indicators from each hospital was calculated. Data in 2005 (Y=0) was excluded because it is a transitional period. After that, the value of the difference between pre- and post- transformation was determined. Finally, the significance of changes using t-test was calculated.

T-test calculation was started with calculating the sample standard deviation pre- and post- transformation based on the proxies data on each hospital using formula:

$$s = \sqrt{\frac{\sum \left(X - \overline{X}\right)}{n-1}}$$

The second step after standard deviation was determined was calculating pooled variances using formula:

$$s_p = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

The final step was calculating the t value using formula:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{s_p^2\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

4.2.2 Wilcoxon Signed-Rank Test

Wilcoxon signed-rank test is a non parametric test that tests the significant level of the difference of two samples. This method was used because t-test for correlated sample cannot be legitimately applied to test overall significant changes. There are three assumptions that should be met if t-test is going to be used; first, both sample should have equal-interval scales, second the sample should be randomly picked from the population, and third, the difference should have a normal distribution (Lowry, 2010). The third assumption could not be met because each hospital has different economic size. Their revenue is different due to facilities owned, so the difference could not have a normal distribution.

Using the mean data that have been calculated on t-test, The Wilcoxon signed rank test started with finding the differences between pre- and post- transformation mean from each hospital. The sum of the mean from all the differences showed the impact of transformation. If the sum is positive, it signifies that transformation gives positive impact. However, if the sum is negative, it means that the transformation give negative impact. Nevertheless, the sum of the mean did not show the significant level of changes, so further calculations were needed.

After finding the difference between pre- and post- transformation for each hospital, next step was changing the value of the difference into absolute number simply by removing all negative signs. After that, the absolute value of the difference was ranked from the lowest to the highest. Finally, the same sign was given to the rank based on their original sign before becoming absolute value. The sum of the rank was symbolized as W, and the number of sample as N.

Using the above data, the standard deviation and the value of Z was determined to test the significant level of the difference by using formula:

$$\sigma_W = \sqrt{\frac{N(N+1)(2N+1)}{6}} \qquad z = \frac{W - 0.5}{\sigma_W}$$

In addition to Wilcoxon Signed-Rank test, a proportion test was also used to know whether there were more than 50% of the hospitals experiencing improvements in performance.

CHAPTER 5

EMPIRICAL RESULT

The empirical result of the performance of 13 hospitals that have transformed into autonomous state agencies was presented from table 3 until 20 and discussed in this section

5.1 Service Quality

5.1.1 Profitability

Hypothesis 1: Total Margin

The result pertaining to total margin is shown in table 3. Six out of thirteen hospitals increased their total margin after the transformation (p = .61), but the increase was statistically significant only for three hospitals. The aggregate mean increase was statistically not significant (Z= .23). RSCM showed the greatest increase in revenue (around 13%), but the most significant improvement was RSDK (t = 6.59). The overall result was inconsistent with hypothesis 1.

Total margin indicator measured the control of expense relative to revenue. Even though by transformation hospital could improve their revenue significantly (Monev BLU; 2010), most of them were still operating using traditional management system (non-computerized system). The weakness from this traditional system is that they could not detect fraud and leakage in operation. These two problems had caused high operating cost. So, no matter how much revenue was generates inefficiency would cause the margin remain low.

Hypothesis 2: Cash Flow Margin

The result pertaining Cash Flow Margin is shown in table 4. Six out of thirteen hospitals indicated the same movement with hypothesis (p = .61), and four of them

were statistically significant. The aggregate cash flow margin increase was statistically not significant (z= .23). RSHS increased cash flow margin with the highest percentage (around 17%), and RSS had the most significant improvement (t=2.84). The only hospital that showed positive cash flow margin was RSKD. Even though there were some improvements, the overall result was inconsistent with Hypothesis 2.

Cash Flow Margin indicated the ability of hospital to generate cash flow from providing patient care service. It removed appropriation state budget from the revenue. It was expected that the transformations would make hospitals became more self-sufficient, so, it would reduce state budget burden. However, after transformation, the empirical analysis from the sample showed that there was no significant improvement in the mean of Cash Flow Margin. In average, the hospitals still need government subsidy for operational, which is around 23 %.

Hypothesis 3: Return on Equity

The empirical result for Return on Equity was not much different from the first two hypotheses. The result is shown in table 5. Six out of thirteen hospitals indicated an increase in return on equity (p = .61). Four of them were statistically significant with 5% significant level. The aggregate increasing in return on equity were statistically not significant (z = .43). RSCM had the biggest percentage increase (around 14%). Only four out of thirteen hospitals that have significant increase, so, it could be concluded that the empirical result was inconsistent with hypothesis 3.

This indicator measured the ability of hospital to generate net income by using equity that had been invested by the state government. The increase indicated a better performance from the hospital, but the empirical result showed unexpected result. This showed that the allocation of capital expenditure was not effective, so, it did not

give positive impact to the hospitals.

5.1.2 Liquidity

Hypothesis 4: Days Cash On Hand

Days Cash on hand indicated the number of days hospital that could operate if no cash was collected or received. This indicator should not be too little or too much. If it is too small, the hospital will have problem in liquidity, and if it is too big, the hospital will have problem in idle asset. US Health Department mentioned that 60-70 days cash on hand is considered to be appropriate. The empirical result shown in table 6 showed that nine out of thirteen hospitals indicated the same movement as hypothesis (p = .08), and six of them were statistically significant. The aggregate showed insignificant increase (z = .856). After transformation two hospitals were in optimal condition, those are RSCM (64 days) and RSABHK (66 days). Overall results were consistent with hypothesis 4.

Hypothesis 5: Net Days revenue in Account Receivable

Net Days Revenue in Account receivable reflects the ability of the hospital to collect account receivable. US Health Department categorized the ability to collect account receivable in to three groups: first category is best practice which is around 45-55 days, second category is average which is around 56-65 days, and third category is poor which is above 66 days.

The empirical results shown in table 7 showed that six out of thirteen hospitals indicated a decreasing in net day's revenue in account receivable (p = .61). Three of them were statistically significant with 5% significant level. The aggregate of Net days Revenue in Account Receivable showed an increasing value; the average of pre-transformation was 61 days, but post-transformation had an increase of 5 days, and turned into 66 days. RSABHK had the best account receivable management. On

average, they could collect receivable within 20 days. Based on US Health Department account receivable management categorization, three hospitals are categorized as best practice, four hospitals are as average, and six hospitals are as poor. It could be concluded that the result was inconsistent with hypothesis 5.

The major contributor for the lengthened account receivable collection period is the health insurance for the poor (JAMKESMAS). In 2005, the government launched a program to provide free health service for the poor. This program uses reimbursement method that is after the poor receive health care, the hospital can ask for reimbursement to PT ASKES[12]. However, the hospital could not get the money as soon as possible, since PT ASKES needs to evaluate the bill and choose which service and medicine that could get reimbursement. This evaluation process takes a long time, between 9 months and 1 year. Before hospitals receive reimbursement, they treat it as account receivable. So, after the implementation of JAMKESMAS, the number of account receivable in hospital increased.

5.1.3 Revenue

Hypothesis 6: Out Patient Revenue to Total revenue

The evaluation of outpatient revenue to total revenue is shown in table 8. There were only three out of thirteen hospitals that had a decreasing ratio (p = .97), and only one hospital that decreased with statistical significance. The overall result was opposite to hypothesis 6. This condition might indicate that people were still reluctant to obtain inpatient care service in government hospital.

Hypothesis 7: Patient Deductions

Patient deductions measure the allowance and discount from gross patient

[12] PT Askes choose by government to become Fund Manager for JAMKESMAS

revenue. In Indonesia, especially government hospital, allowance and discount are usually given to the poor. The Empirical result for patient deductions is shown in table 9. Four out of thirteen hospitals showed a decrease in patient deductions ratio (p = .91), and one of them was statistically significant. The aggregate patient deductions increased and it was statistically significant with 5% significant level. The results were inconsistence with hypothesis 7. This indicated significant increase in subsidy from hospital.

We expected that patient deduction would be smaller. Though the government hospital had been changed into autonomous state agency, it did not mean that they should reduce service to the poor. Even though the transformation was expected to change government agency to operate like private sector, as government agency, providing service to the poor is an obligation. They could not reject poor people only because they could not pay for the health care service. The major factor of increasing patient deductions is the different perception between hospital and PT Askes on service and medicine that could be reimbursed. Hospitals only focus on patient safety, so they took all necessary action to help the poor, while PT ASKES have their own criterion, that is not every service and medicine could get reimbursement. So, when hospitals try to reimburse the bill, PT ASKES usually only cover half of it, and the rest would become the burden of the hospital.

5.1.4 Cost

Hypothesis 8: Salaries to Total Expense

The result pertaining ratio of salaries to total expense is shown in table 10. Seven out of thirteen hospitals showed a decrease in ratio (p = .39), and five of them was statistically significant. The aggregate decreasing in the ratio of Salaries to Total Expense was statistically insignificant (z = .15). The results were consistent with

hypothesis 8 but the change was not significant.

5.1.5 Number of Patient

Hypothesis 9: Number of outpatient growth

The result pertaining the outpatient growth is shown in table 11. Ten out of thirteen hospitals showed an increasing number (p = .00), but only two of them increased with statistical significance. The aggregate number of outpatient growth showed significant increase at 1% significant level. The result was consistent with hypothesis 9.

The positive impact of transformation could be caused by the change in payment method. In the old system[13] the doctor could not receive their fee soon after they provided service. Sometimes it took 3-6 months to receive their fees. This complicated process caused the doctor always take the patient to his/her other medical practice[14], where he can receive the fee instantly. After the hospital transformed into Public Service Agencies, they did not have the obligation to transfer the fee to treasury account, so the doctor could get their fee instantly. Consequently, there would be no reason for them to take the patient out of hospital.

Hypothesis 10: Number of inpatient growth

The result pertaining the inpatient growth is shown in table 12. Nine out of thirteen hospitals increased their inpatient number (p = .08), and three of them increased statistically significant. The aggregate increase is statistically significant at 1% significant level. RSCM had the biggest increase in the number of inpatient

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[13] In the old system, government agency use non tax revenue (PNBP) disbursement system, all the fee from service must be transfer to treasury account, and can be only withdrawal if already allocated in budget document.

[14] The doctor usually have practice in two or more different places.

growth. The overall result was consistent with hypothesis 10.

The inpatient growth increased lower than outpatient growth. This condition was probably caused by poor facilities for inpatient in the hospital. Few of big hospitals in capital cities already have modernized equipment but most of government hospitals are still operating with old and obsolete equipment. This condition caused people to feel uncomfortable and doubtful when receiving inpatient service.

5.2 Efficiency

Hypothesis 11: Bed Occupancy Ratio (BOR)

Bed Occupancy Ratio calculated the average number of inpatient beds which are occupied within a year. Ministry of Health mentioned ideal BOR value is around 60-85%. It could not occupy more than 85%, because the bed needs to be cleaned up, to make sure it does not contain any infectious disease. On the other hand, if it is below 60%, it means the bed is underutilized.

The result of analysis is presented on table 13. Nine out of thirteen hospitals indicated an increase in bed utilization (p = .08). Seven of them increased with statistically significant. The aggregate evaluation showed a significant improvement in BOR at 5% significant level. It increased 3.8% from 65.28% before transformation, into 69.11% after transformation. The result was consistent with hypothesis 11.

100 % hospitals were already in the optimal area. It could be concluded that they had already been at maximum capacity. If the hospitals want to continue the revenue growth, they should consider to improve their facilities in quantity and quality.

Hypothesis 12: Average Length of Stay (AvLOS)

Average Length of Stay indicates the average of one person receives inpatient treatment. Ministry of Health Indonesia stated that the ideal AvLOS is around 6-9

days.

The empirical result is shown in table 14. Eleven out of thirteen hospitals had an increase in AvLOS indicator (p = .00), and nine of them is statistically significant. The aggregate indicated that average length of stay improved significantly with 5% significant level. It increased 1 day, from previous transformation 5 day to 6 day after transformation. Although there are fears after the transformation, the hospitals would cheat the patients by lengthening their stay in hospital. The concern was answered by the fact that the mean of AvLOS after transformation is still in an optimal area. The result was consistent with hypothesis 12.

Hypothesis 13: Turn Over Interval (TOI)

Turn over interval indicates the average day beds unoccupied from the last occupation to the next one. Ministry of Health of Indonesia mentioned that the ideal TOI is around 1 to 3 days. Table 15 presents the result of TOI analysis. Six out of thirteen hospitals decrease the interval (p = .60), and 5 of them was statistically significant. The aggregate TOI decreasing was statistically not significant (z = 0.68). The result was quite consistent with the hypothesis 13.

Hypothesis 14: Bed Turn Over

Bed Turn Over indicates frequency of use of a bed in one period, how many times beds are used in one year. Ministry of Health stated that the ideal BTO is around 40 to 50 times. Table 16 presents the data of BTO. Three out of thirteen hospitals increased the frequency, and all of them were statistically significant. The aggregate frequency of use after transformation was decreasing. This decrease was statistically significant at 5% significant level. The result was inconsistent with the hypothesis 14, but this decrease is still tolerable because the movement was still in optimal area (the mean of BTO after transformation is around 43 days).

Hypothesis 15: Outpatient – doctor to patient ratio

Outpatient-patient to doctor ratio measures the average number of outpatients handled by doctor in one day. Table 17 represents the data of the ratio. All hospital indicated an increasing in outpatient doctor to patient ratio. The aggregate increase was significant at 1 % significant level. The result was consistent with hypothesis 15.

Hypothesis 16: Outpatient – nurse to patient ratio

Outpatient-patient to nurse ratio measures the average number of outpatients handled by nurse in one day. Table 18 presents the data analysis. Similar with previous ratio, all the hospitals indicated an increase in the ratio. The aggregate increase was significant at 1 % significant level. The mean of ratio increased 3 persons, from 13 persons on previous transformation to 16 persons after transformation. The result was consistent with hypothesis 16.

Hypothesis 17: Inpatient – doctor to patient ratio

Inpatient-patient to doctor ratio measures the average number of inpatients handled by doctor in one day. Table 19 presents the data of the ratio. Unlike outpatient ratio, in this ratio there were only ten out of thirteen hospitals that could increase the ratio, and from that amount only four hospitals increase with statistical significance. The aggregate increase was significant at 1 % significant level. The mean of sample data increased 1 person from previously 8 persons to 9 persons. Even though the ratio did not increase as high as outpatient ratio, but the overall result was still consistent with hypothesis 17.

Hypothesis 18: Inpatient – nurse to patient ratio

Inpatient-patient to nurse ratio measures the average number of inpatients handled by nurse in one day. Table 20 presents the analysis of the data. Nine out of thirteen hospitals increased their inpatient to nurse ratio ($p = .08$). From that amount,

two hospital increased with statistical significance. The aggregate increase was statistically not significant. This condition might be caused by new additional of nurse did not consider patient growth. Reconsidering the small significance of the change, it is concluded that the result was inconsistent with the hypothesis.

Table 3
Total Margin

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	9.02%	8.26%	3.75%	5.23%	0.55%	27.66%	22.18%	26.90%	4.30%	6.56%	20.26%	13.70%	2.45	0.02
2	RSF	10.96%	8.59%	9.72%	3.04%	2.35%	10.08%	19.43%	13.25%	6.86%	8.08%	12.41%	4.33%	1.35	0.11
3	RSP	9.52%	10.52%	14.61%	12.07%	7.50%	12.98%	11.65%	7.65%	0.51%	11.68%	8.20%	-3.48%	-1.15	0.15
4	RSJHK	2.11%	3.98%	5.89%	4.12%	6.96%	15.06%	13.61%	4.41%	6.41%	4.03%	9.87%	5.85%	2.14	0.04
5	RSABHK	-0.52%	2.23%	3.39%	5.24%	4.36%	11.33%	8.12%	-2.85%	19.74%	2.58%	9.08%	6.50%	1.35	0.11
6	RSKD	3.85%	1.04%	5.88%	9.49%	14.34%	7.47%	7.40%	1.57%	6.32%	5.07%	5.69%	0.63%	0.28	0.40
7	RSHS	7.71%	12.71%	18.67%	12.33%	6.66%	5.03%	2.53%	-3.57%	-3.78%	12.86%	0.05%	-12.81%	-4.06	0.00
8	RSDK	4.87%	5.32%	6.48%	4.64%	3.21%	10.65%	12.99%	9.58%	10.31%	5.33%	10.88%	5.55%	6.59	0.00
9	RSDS	0.59%	0.96%	-0.87%	-0.31%	-0.44%	5.43%	-6.70%	-7.89%	-14.85%	0.09%	-6.00%	-6.09%	-1.44	0.10
10	RSS	5.03%	4.36%	1.60%	2.82%	2.22%	2.00%	6.47%	-1.78%	1.08%	3.45%	1.94%	-1.51%	-0.81	0.23
11	RSWS	6.43%	6.40%	4.57%	1.98%	2.38%	2.03%	2.18%	1.52%	6.74%	4.84%	3.12%	-1.73%	-1.07	0.16
12	RSMD	3.07%	1.53%	2.09%	2.17%	-0.05%	-4.57%	5.09%	-5.40%	-3.29%	2.21%	-2.04%	-4.25%	-1.75	0.07
13	RSMH	10.17%	8.54%	8.74%	9.42%	8.13%	7.85%	8.42%	7.31%	8.43%	9.22%	8.00%	-1.22%	-2.66	0.02
Wilcoxon Signed Rank Test (z value)											5.85%	6.27%	0.42%	0.23	0.41
Proportion of hospitals that change as predicted (z value)													46.15%	-0.28	0.61

Table 4
Cash Flow Margin

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	-23.41%	-19.84%	-30.27%	-31.55%	-32.71%	-22.38%	-24.83%	-23.23%	-62.25%	-26.27%	-33.17%	-6.90%	-0.68	0.26
2	RSF	-13.84%	-19.45%	-20.71%	-30.54%	-36.59%	-21.83%	-22.53%	-19.52%	-27.61%	-21.13%	-22.87%	-1.74%	-0.45	0.33
3	RSP	-29.62%	-27.05%	-23.26%	-29.94%	-38.78%	-32.41%	-34.43%	-29.57%	-38.45%	-27.47%	-33.72%	-6.25%	-2.58	0.02
4	RSJHK	-0.45%	4.54%	3.08%	0.15%	6.12%	7.06%	6.88%	0.63%	1.95%	1.83%	4.13%	2.30%	1.12	0.15
5	RSABHK	-40.25%	-35.31%	-33.02%	-29.89%	-28.51%	-19.17%	-31.86%	-41.22%	-40.28%	-34.62%	-33.13%	1.49%	0.27	0.40
6	RSKD	-18.46%	-22.91%	-14.64%	-12.25%	-5.13%	-7.02%	-13.77%	-11.68%	-12.86%	-17.07%	-11.33%	5.73%	2.07	0.04
7	RSHS	-81.03%	-34.47%	-35.45%	-41.20%	-41.45%	-26.15%	-28.40%	-31.05%	-38.57%	-48.04%	-31.04%	17.00%	1.49	0.09
8	RSDK	-21.03%	-24.46%	-24.04%	-29.98%	-30.04%	-17.12%	-26.54%	-18.95%	-12.49%	-24.88%	-18.78%	6.10%	1.76	0.06
9	RSDS	-35.39%	-31.41%	-34.77%	-33.35%	-32.63%	-23.95%	-42.72%	-29.04%	-42.44%	-33.73%	-34.54%	-0.81%	-0.17	0.44
10	RSS	-50.85%	-43.13%	-46.21%	-41.56%	-40.61%	-37.94%	-29.29%	-41.93%	-34.22%	-45.44%	-35.84%	9.60%	2.84	0.01
11	RSWS	-8.26%	-7.72%	-9.98%	-13.15%	-12.65%	-12.47%	-12.39%	-12.96%	-5.95%	-9.78%	-10.94%	-1.16%	-0.56	0.30
12	RSMD	-13.26%	-18.76%	-17.91%	-24.89%	-18.45%	-35.36%	-33.73%	-34.53%	-38.07%	-18.70%	-35.42%	-16.72%	-6.50	0.00
13	RSMH	-7.74%	-10.40%	-9.37%	-8.27%	-9.28%	-10.09%	-9.24%	-10.60%	-9.17%	-8.95%	-9.78%	-0.83%	-1.21	0.14
Wilcoxon Signed Rank Test (z value)											-24.17%	-23.57%	0.60%	0.23	0.41
Proportion of hospitals that change as predicted (z value)													46.15%	-0.28	0.61

Table 5
Return on Equity

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	10.99%	10.15%	4.92%	5.83%	0.63%	35.46%	24.65%	27.07%	2.15%	7.97%	22.33%	14.36%	1.97	0.05
2	RSF	7.11%	5.84%	7.00%	2.08%	1.57%	7.94%	18.19%	12.07%	6.85%	5.51%	11.26%	5.76%	2.04	0.04
3	RSP	11.63%	13.20%	19.95%	16.70%	10.66%	18.31%	16.62%	10.47%	0.79%	15.37%	11.55%	-3.82%	-0.87	0.21
4	RSJHK	2.53%	4.81%	7.28%	5.01%	9.02%	19.94%	15.98%	5.15%	7.02%	4.91%	12.02%	7.12%	1.94	0.05
5	RSABHK	-0.57%	2.49%	3.84%	5.98%	4.94%	12.82%	9.80%	-3.51%	4.06%	2.93%	5.79%	2.86%	0.74	0.24
6	RSKD	2.31%	0.63%	4.02%	6.53%	10.68%	6.35%	7.42%	1.73%	7.77%	3.37%	5.82%	2.44%	1.30	0.12
7	RSHS	1.56%	2.89%	6.79%	4.65%	3.10%	2.86%	1.92%	-2.96%	-4.07%	3.97%	-0.56%	-4.54%	-2.19	0.04
8	RSDK	2.16%	2.54%	3.30%	2.41%	1.76%	6.77%	8.69%	6.78%	3.20%	2.60%	6.36%	3.75%	3.20	0.01
9	RSDS	0.25%	0.43%	-0.40%	-0.14%	-0.22%	2.73%	-3.93%	-5.33%	-25.36%	0.03%	-7.97%	-8.01%	-1.32	0.12
10	RSS	5.77%	5.28%	1.92%	3.44%	2.69%	2.50%	8.29%	-2.34%	1.51%	4.10%	2.49%	-1.61%	-0.68	0.26
11	RSWS	4.16%	4.17%	3.02%	1.31%	1.57%	1.40%	1.49%	1.05%	4.75%	3.16%	2.17%	-0.99%	-0.91	0.20
12	RSMD	1.65%	0.86%	0.94%	1.03%	-0.02%	-2.15%	3.56%	-3.49%	-2.26%	1.12%	-1.08%	-2.20%	-1.39	0.11
13	RSMH	8.38%	6.92%	7.12%	7.84%	6.75%	6.48%	7.05%	6.12%	7.22%	7.56%	6.72%	-0.84%	-2.01	0.05
Wilcoxon Signed Rank Test (z value)											4.82%	5.92%	1.10%	0.44	0.33
Proportion of hospitals that change as predicted (z value)													46.15%	-0.28	0.61

Table 6
Days Cash on Hand

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	134.73	137.59	99.48	109.44	100.25	116.09	41.44	43.20	58.27	120.31	64.75	-55.56	-2.79	0.02
2	RSF	29.39	24.05	28.43	37.20	33.31	41.58	19.15	46.90	45.20	29.77	38.21	8.44	1.21	0.14
3	RSP	40.44	47.70	54.27	59.29	45.27	60.55	25.93	27.22	46.93	50.42	40.16	-10.27	-1.11	0.16
4	RSJHK	79.96	67.08	71.40	80.96	70.91	78.46	144.98	121.25	129.22	74.85	118.48	43.63	2.99	0.01
5	RSABHK	26.04	18.88	20.93	26.21	15.77	53.49	66.48	67.67	76.44	23.01	66.02	43.01	8.47	0.00
6	RSKD	22.27	25.63	31.16	29.00	29.54	21.32	20.06	30.61	44.55	27.02	29.14	2.12	0.35	0.37
7	RSHS	58.95	59.46	43.51	47.58	26.27	31.87	36.06	18.65	9.09	52.37	23.92	-28.46	-3.86	0.00
8	RSDK	56.53	46.73	54.92	60.13	42.28	66.34	108.74	140.40	167.66	54.58	120.79	66.21	3.01	0.01
9	RSDS	40.02	40.67	44.65	40.14	41.20	46.25	55.71	50.85	53.17	41.37	51.50	10.13	4.42	0.00
10	RSS	42.26	30.45	29.70	30.83	42.86	33.89	21.64	67.64	33.61	33.31	39.20	5.89	0.57	0.29
11	RSWS	15.28	11.16	6.76	14.70	9.50	12.41	15.86	17.26	14.96	11.97	15.12	3.15	1.42	0.10
12	RSMD	15.44	16.42	16.97	19.10	15.21	19.75	10.16	12.75	10.44	16.99	13.27	-3.71	-1.57	0.08
13	RSMH	8.00	9.16	10.31	11.62	6.89	11.42	10.18	14.95	12.18	9.77	12.18	2.41	1.89	0.05
Wilcoxon Signed Rank Test (z value)											41.98	48.67	6.69	0.86	0.19
Proportion of hospitals that change as predicted (z value)													69.23%	1.39	0.08

Table 7
Net Days Revenue in Account Receivable

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	40.66	42.69	55.60	55.36	60.73	60.37	90.62	140.13	68.46	48.58	89.89	41.32	2.25	0.03
2	RSF	45.62	37.78	37.61	49.72	47.96	42.98	62.45	65.81	63.51	42.68	58.69	16.01	2.64	0.02
3	RSP	42.69	42.43	38.99	39.81	38.80	39.50	85.54	103.15	65.15	40.98	73.34	32.36	2.36	0.03
4	RSJHK	51.75	67.53	69.60	80.02	65.90	72.45	60.30	73.28	47.27	67.22	63.33	-3.90	-0.46	0.33
5	RSABHK	25.22	24.56	23.97	21.31	21.71	18.64	22.33	21.43	19.85	23.76	20.56	-3.20	-2.69	0.02
6	RSKD	49.18	51.23	47.04	53.93	41.74	54.42	57.86	62.04	49.56	50.35	55.97	5.62	1.86	0.06
7	RSHS	63.65	56.89	53.87	66.33	64.52	87.15	75.82	86.17	48.67	60.18	74.45	14.27	1.51	0.09
8	RSDK	56.02	54.98	59.44	53.32	53.61	56.78	51.37	46.83	45.72	55.94	50.18	-5.76	-2.04	0.04
9	RSDS	81.50	81.79	75.44	81.77	80.24	78.15	63.63	57.92	39.72	80.12	59.85	-20.27	-2.50	0.02
10	RSS	99.23	102.06	84.86	85.08	95.41	98.80	103.12	66.45	68.00	92.81	84.09	-8.72	-0.81	0.23
11	RSWS	38.86	46.98	50.01	51.19	47.90	51.74	50.36	55.23	56.49	46.76	53.45	6.69	2.14	0.04
12	RSMD	121.68	125.87	110.85	115.46	115.16	134.34	99.83	103.94	99.59	118.47	109.42	-9.04	-1.00	0.18
13	RSMH	59.28	65.85	67.29	71.71	61.63	68.22	72.55	76.84	67.14	66.03	71.19	5.16	1.52	0.09
Wilcoxon Signed Rank Test (z value)											61.07	66.49	5.43	0.79	0.21
Proportion of hospitals that change as predicted (z value)													46.15%	-0.28	0.61

Table 8
Outpatient Revenue to Total Revenue

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	60.13%	57.70%	49.24%	51.63%	51.19%	44.38%	25.32%	22.98%	20.93%	54.68%	28.40%	-26.27%	-4.40	0.00
2	RSF	10.21%	15.28%	17.10%	17.50%	21.33%	18.69%	23.31%	23.76%	24.92%	15.02%	22.67%	7.65%	3.53	0.01
3	RSP	6.68%	7.75%	6.57%	5.35%	5.65%	4.28%	4.47%	6.08%	34.74%	6.59%	12.39%	5.81%	0.78	0.23
4	RSJHK	3.24%	3.22%	3.37%	3.60%	3.56%	5.32%	5.61%	5.46%	7.71%	3.36%	6.02%	2.67%	4.68	0.00
5	RSABHK	26.72%	27.81%	29.59%	28.81%	30.32%	27.81%	25.45%	27.43%	32.54%	28.23%	28.31%	0.08%	0.05	0.48
6	RSKD	14.92%	15.28%	13.96%	14.03%	12.87%	11.67%	14.86%	14.97%	14.25%	14.55%	13.94%	-0.61%	-0.73	0.25
7	RSHS	3.55%	5.62%	6.89%	7.03%	13.50%	12.00%	11.98%	12.31%	11.71%	5.77%	12.00%	6.23%	7.63	0.00
8	RSDK	5.99%	5.80%	5.92%	6.35%	5.50%	4.98%	4.54%	3.79%	5.38%	6.02%	4.67%	-1.34%	-3.72	0.00
9	RSDS	10.46%	9.92%	9.70%	9.88%	9.74%	9.51%	11.30%	10.24%	9.51%	9.99%	10.14%	0.15%	0.34	0.37
10	RSS	8.22%	7.71%	7.68%	7.57%	7.61%	7.54%	7.46%	8.79%	8.15%	7.80%	7.98%	0.19%	0.54	0.30
11	RSWS	9.52%	9.81%	9.83%	9.32%	10.62%	10.66%	10.34%	11.39%	11.76%	9.62%	11.04%	1.42%	4.10	0.00
12	RSMD	5.00%	4.51%	4.66%	5.88%	4.78%	4.74%	6.89%	7.49%	8.25%	5.01%	6.84%	1.83%	2.25	0.03
13	RSMH	3.92%	4.13%	4.38%	4.77%	4.17%	5.12%	5.42%	5.72%	6.24%	4.30%	5.63%	1.32%	4.41	0.00
Wilcoxon Signed Rank Test (z value)											13.15%	13.08%	-0.07%	1.55	0.06
Proportion of hospitals that change as predicted (z value)													23.08%	-1.94	0.97

Table 9
Patient Deduction

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	0.33%	0.32%	0.43%	0.33%	0.30%	4.34%	4.10%	1.14%	0.98%	0.35%	2.64%	2.29%	2.50	0.02
2	RSF	11.05%	13.07%	13.17%	17.43%	14.47%	12.49%	16.08%	12.78%	11.64%	13.68%	13.25%	-0.43%	-0.26	0.40
3	RSP	5.93%	6.39%	6.83%	6.91%	7.20%	10.17%	12.45%	8.56%	10.61%	6.51%	10.45%	3.94%	4.74	0.00
4	RSJHK	2.20%	1.79%	2.44%	3.04%	1.83%	4.31%	2.81%	1.18%	4.80%	2.37%	3.28%	0.91%	1.06	0.16
5	RSABHK	1.99%	1.98%	2.14%	2.42%	2.04%	2.00%	3.05%	2.58%	2.59%	2.13%	2.55%	0.42%	1.75	0.07
6	RSKD	2.11%	2.35%	2.17%	3.62%	1.53%	7.20%	9.03%	6.74%	6.80%	2.56%	7.44%	4.88%	7.54	0.00
7	RSHS	29.27%	20.12%	14.24%	12.70%	10.54%	8.59%	6.75%	6.87%	6.57%	19.08%	7.19%	-11.89%	-3.14	0.01
8	RSDK	7.16%	7.37%	7.23%	7.68%	6.73%	13.00%	18.73%	10.52%	9.43%	7.36%	12.92%	5.56%	2.67	0.02
9	RSDS	5.66%	4.14%	6.29%	5.67%	6.01%	5.87%	8.88%	3.58%	2.63%	5.44%	5.24%	-0.20%	-0.14	0.45
10	RSS	3.96%	4.00%	3.55%	3.83%	3.94%	4.18%	3.83%	3.66%	3.38%	3.83%	3.76%	-0.07%	-0.37	0.36
11	RSWS	4.23%	4.53%	4.21%	3.37%	4.68%	4.80%	5.16%	5.50%	4.84%	4.08%	5.07%	0.99%	3.33	0.01
12	RSMD	5.03%	5.47%	5.99%	7.75%	6.25%	4.52%	12.35%	10.47%	8.43%	6.06%	8.94%	2.88%	1.62	0.08
13	RSMH	2.44%	3.13%	3.03%	2.44%	3.39%	3.86%	3.93%	4.53%	3.71%	2.76%	4.01%	1.25%	4.86	0.00
Wilcoxon Signed Rank Test (z value)											5.86%	6.67%	0.81%	1.76	0.04
Proportion of hospitals that change as predicted (z value)													30.77%	-1.39	0.92

Table 10
Salaries to Total Expense

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	66.25%	59.88%	56.59%	55.64%	55.12%	57.81%	52.63%	50.26%	30.10%	59.59%	47.70%	-11.89%	-1.82	0.06
2	RSF	53.07%	53.86%	52.81%	54.07%	57.84%	58.24%	57.85%	58.18%	54.66%	53.45%	57.23%	3.78%	4.13	0.00
3	RSP	55.60%	55.69%	56.05%	54.83%	55.45%	57.58%	56.32%	57.56%	58.03%	55.54%	57.37%	1.83%	4.09	0.00
4	RSJHK	34.00%	35.62%	35.44%	36.75%	36.34%	35.21%	36.93%	39.94%	35.22%	35.45%	36.83%	1.38%	1.10	0.16
5	RSABHK	67.38%	66.10%	65.74%	64.99%	64.52%	61.56%	66.28%	66.38%	60.84%	66.05%	63.76%	-2.29%	-1.46	0.10
6	RSKD	25.13%	24.31%	25.79%	26.54%	26.98%	24.07%	25.54%	25.50%	26.50%	25.44%	25.40%	-0.04%	-0.05	0.48
7	RSHS	50.22%	61.11%	63.78%	61.74%	61.99%	53.49%	45.90%	52.40%	48.40%	59.21%	50.05%	-9.17%	-2.60	0.02
8	RSDK	39.93%	42.89%	43.27%	43.17%	43.12%	45.47%	48.66%	40.55%	47.93%	42.31%	45.65%	3.34%	1.67	0.07
9	RSDS	48.84%	47.78%	47.29%	46.46%	46.76%	49.41%	42.16%	47.64%	47.44%	47.59%	46.66%	-0.93%	-0.57	0.30
10	RSS	24.45%	22.92%	23.58%	24.61%	25.15%	25.54%	26.80%	28.88%	29.96%	23.89%	27.79%	3.90%	3.63	0.01
11	RSWS	53.73%	53.28%	51.81%	50.64%	51.40%	49.40%	49.95%	49.30%	51.86%	52.37%	50.13%	-2.24%	-2.42	0.03
12	RSMD	18.53%	19.48%	20.11%	20.80%	21.89%	23.10%	29.31%	31.19%	32.90%	19.73%	29.12%	9.39%	4.28	0.00
13	RSMH	40.11%	40.00%	39.89%	39.81%	39.30%	39.63%	39.70%	39.47%	39.71%	39.95%	39.63%	-0.33%	-3.81	0.00
Wilcoxon Signed Rank Test (z value)											44.66%	44.41%	-0.25%	0.16	0.44
Proportion of hospitals that change as predicted (z value)													53.85%	0.28	0.39

Table 11
Out Patient Growth

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	0.84	1.16	0.91	1.15	1.03	1.02	0.74	1.07	1.23	1.02	1.02	0.00	0.00	0.50
2	RSF	1.23	1.39	1.20	1.04	1.16	1.09	1.36	1.19	1.20	1.22	1.21	-0.01	-0.06	0.48
3	RSP	1.05	1.27	0.96	0.88	1.11	0.93	1.27	0.95	1.60	1.04	1.19	0.15	0.82	0.22
4	RSJHK	1.04	1.09	1.07	1.09	1.11	1.40	1.09	1.04	1.07	1.07	1.15	0.08	0.91	0.20
5	RSABHK	1.07	1.12	1.11	1.03	1.07	1.04	1.02	1.08	1.21	1.08	1.09	0.00	0.11	0.46
6	RSKD	1.06	1.07	1.05	1.08	1.02	1.11	1.35	1.21	1.23	1.07	1.23	0.16	3.22	0.01
7	RSHS	1.08	1.36	1.37	1.07	1.40	1.25	1.33	1.34	1.18	1.22	1.28	0.05	0.60	0.29
8	RSDK	1.02	1.04	1.09	1.10	0.92	1.22	1.00	1.00	1.83	1.06	1.26	0.20	1.01	0.17
9	RSDS	1.03	1.02	1.01	1.07	1.07	1.03	1.26	1.04	1.08	1.03	1.10	0.07	1.27	0.13
10	RSS	1.02	1.09	1.03	1.05	1.04	1.06	1.04	1.20	1.02	1.05	1.08	0.03	0.74	0.24
11	RSWS	1.03	1.05	1.01	0.95	1.14	1.06	0.97	1.11	1.05	1.01	1.05	0.04	1.04	0.17
12	RSMD	0.99	0.93	1.15	1.28	0.91	0.89	1.19	1.09	1.11	1.09	1.07	-0.02	-0.17	0.43
13	RSMH	1.03	1.04	1.08	1.11	0.89	1.22	1.07	1.18	1.12	1.07	1.15	0.08	2.18	0.04
Wilcoxon Signed Rank Test (z value)											1.08	1.14	0.06	2.69	0.00
Proportion of hospitals that change as predicted (z value)													83.33%	2.40	0.01

Table 12
Inpatient Growth

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	1.02	1.03	1.26	0.93	1.02	1.40	1.48	1.15	1.30	1.06	1.33	0.27	2.72	0.02
2	RSF	1.03	1.04	1.11	1.09	0.90	1.03	1.16	1.07	1.00	1.07	1.07	0.00	-0.06	0.48
3	RSP	1.02	1.08	1.14	1.05	1.01	1.11	1.20	0.92	1.35	1.07	1.15	0.07	0.78	0.23
4	RSJHK	1.02	1.11	1.11	1.12	1.14	1.20	1.03	1.05	1.05	1.09	1.08	-0.01	-0.16	0.44
5	RSABHK	1.02	1.06	1.06	1.04	1.05	1.15	1.31	0.94	1.45	1.05	1.21	0.17	1.52	0.09
6	RSKD	1.02	1.13	1.04	1.08	1.02	1.26	1.01	1.00	1.13	1.07	1.10	0.03	0.50	0.32
7	RSHS	1.04	1.37	1.21	1.01	1.25	1.28	1.28	1.24	1.18	1.16	1.25	0.09	1.01	0.18
8	RSDK	1.03	1.13	1.05	1.14	1.13	1.26	1.10	1.01	1.20	1.09	1.14	0.06	0.89	0.20
9	RSDS	1.02	1.10	1.15	1.13	1.08	1.09	1.11	1.11	1.46	1.10	1.19	0.09	0.99	0.18
10	RSS	1.06	1.02	1.02	1.03	0.99	1.06	1.04	1.13	1.04	1.03	1.07	0.03	1.50	0.09
11	RSWS	1.01	0.98	1.10	0.99	1.03	1.02	0.99	1.02	1.01	1.02	1.01	-0.01	-0.35	0.37
12	RSMD	1.00	1.12	0.98	0.97	1.14	1.03	1.37	0.98	1.07	1.02	1.11	0.10	1.01	0.18
13	RSMH	1.02	1.03	1.03	1.08	0.96	1.02	1.02	1.03	1.04	1.04	1.03	-0.01	-0.87	0.21
Wilcoxon Signed Rank Test (z value)											1.07	1.13	0.07	2.46	0.01
Proportion of hospitals that change as predicted (z value)													69.23%	1.39	0.08

Table 13
Bed Occupancy Ratio (BOR)

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	56%	53%	58%	49%	46%	50%	67%	60%	71%	54%	62%	8%	1.59	0.08
2	RSF	76%	74%	77%	79%	67%	65%	72%	73%	70%	76%	70%	-6%	-3.02	0.01
3	RSP	56%	55%	52%	52%	46%	55%	57%	61%	64%	54%	59%	6%	2.46	0.02
4	RSJHK	72%	68%	69%	72%	69%	69%	68%	73%	69%	70%	69%	-1%	-0.64	0.27
5	RSABHK	66%	68%	69%	67%	67%	68%	72%	64%	74%	68%	69%	2%	0.83	0.22
6	RSKD	56%	59%	58%	59%	60%	69%	67%	66%	68%	58%	68%	10%	9.49	0.00
7	RSHS	57%	64%	61%	61%	75%	80%	73%	73%	72%	61%	74%	14%	5.75	0.00
8	RSDK	66%	67%	65%	64%	59%	65%	68%	66%	75%	66%	69%	3%	1.26	0.13
9	RSDS	59%	61%	60%	60%	50%	51%	54%	57%	80%	60%	61%	1%	0.09	0.47
10	RSS	60%	59%	60%	61%	59%	62%	64%	72%	74%	60%	68%	8%	2.77	0.02
11	RSWS	83%	76%	80%	74%	73%	71%	80%	82%	75%	78%	77%	-1%	-0.45	0.34
12	RSMD	65%	66%	67%	72%	72%	75%	78%	75%	79%	67%	77%	9%	5.14	0.00
13	RSMH	79%	76%	75%	77%	77%	74%	75%	78%	75%	77%	75%	-1%	-1.01	0.18
Wilcoxon Signed Rank Test (z value)											65.29%	69.11%	3.82%	1.97	0.02
Proportion of hospitals that change as predicted (z value)													69.23%	1.39	0.08

Table 14
Average Length of Stay (AvLOS)

No	Hospital	2001	2002	2003	2004	2005	2006	2007	2008	2009	Mean			Statistic for Significant	
											Pre	Post	Difference	t-value	*p*
1	RSCM	3.24	3.09	3.51	2.98	2.80	3.50	5.10	5.71	7.62	3.21	5.48	2.27	2.65	0.02
2	RSF	15.26	15.16	15.91	15.01	6.25	5.84	7.95	8.91	6.36	15.33	7.27	-8.07	-10.98	0.00
3	RSP	6.05	5.93	5.51	5.93	5.63	6.98	6.91	6.64	6.63	5.85	6.79	0.94	6.30	0.00
4	RSJHK	7.09	6.81	7.00	7.73	7.76	7.93	6.56	7.36	7.10	7.16	7.24	0.08	0.23	0.41
5	RSABHK	4.31	4.76	5.17	5.34	5.65	6.06	6.68	6.28	9.47	4.89	7.12	2.23	2.70	0.02
6	RSKD	9.26	9.58	9.37	9.57	9.60	10.00	10.00	9.00	14.00	9.45	10.75	1.30	1.17	0.14
7	RSHS	7.00	8.00	7.00	8.00	8.00	8.00	7.04	7.00	6.92	7.50	7.24	-0.26	-0.68	0.26
8	RSDK	2.66	2.91	3.01	3.16	3.09	3.58	3.94	3.98	4.78	2.94	4.07	1.14	4.17	0.00
9	RSDS	2.40	2.65	2.76	2.96	2.59	2.82	3.13	3.48	5.08	2.69	3.63	0.93	1.82	0.06
10	RSS	4.27	4.35	4.43	4.55	4.52	4.79	4.97	5.63	5.72	4.40	5.28	0.88	3.68	0.01
11	RSWS	3.38	3.29	3.70	3.66	3.79	3.88	4.64	4.97	4.78	3.51	4.57	1.06	4.09	0.00
12	RSMD	5.29	5.48	5.64	6.11	6.19	6.53	6.96	6.82	7.30	5.63	6.90	1.27	5.39	0.00
13	RSMH	3.40	3.53	3.66	4.02	4.21	4.28	6.00	6.00	4.99	3.65	5.32	1.66	3.77	0.00
Wilcoxon Signed Rank Test (z value)											5.86	6.28	0.42	2.11	0.02
Proportion of hospitals that change as predicted (z value)													84.62%	2.50	0.01

Table 15
Turn Over Interval (TOI)

No	HOSPITAL	2001	2002	2003	2004	2005	2006	2007	2008	2009	MEAN			TEST OF STATISTIC	
											Pre	Post	Difference	t-value	*p*
1	RSCM	2.56	2.72	2.53	3.07	3.33	3.47	2.54	3.83	3.16	2.72	3.25	0.53	1.77	0.06
2	RSF	4.79	5.36	4.79	4.03	3.07	3.09	3.08	3.22	2.71	4.74	3.03	-1.72	-5.80	0.00
3	RSP	4.71	4.90	5.07	5.56	6.69	5.76	5.12	3.76	3.71	5.06	4.59	-0.47	-0.87	0.21
4	RSJHK	2.79	3.14	3.14	2.98	3.41	3.60	3.11	2.77	3.29	3.01	3.19	0.18	0.94	0.19
5	RSABHK	2.23	2.24	2.30	2.59	2.75	2.80	2.65	3.52	3.36	2.34	3.08	0.74	3.28	0.01
6	RSKD	7.39	6.68	6.88	6.70	6.00	4.90	4.90	4.00	5.00	6.91	4.70	-2.21	-7.73	0.00
7	RSHS	6.07	4.58	4.70	4.83	2.68	2.41	2.60	2.51	2.72	5.05	2.56	-2.48	-7.06	0.00
8	RSDK	1.38	1.43	1.61	1.75	2.12	1.91	1.84	2.09	1.58	1.54	1.85	0.31	2.27	0.03
9	RSDS	1.65	1.69	1.86	1.95	2.61	2.67	2.65	2.59	1.28	1.79	2.30	0.51	1.47	0.10
10	RSS	2.82	2.96	2.95	2.97	3.10	2.91	2.79	1.77	2.03	2.92	2.38	-0.55	-1.94	0.05
11	RSWS	0.67	1.04	0.92	1.26	1.41	1.61	1.14	1.10	1.58	0.97	1.36	0.38	2.09	0.04
12	RSMD	2.89	2.82	2.77	2.41	2.44	2.21	1.89	2.25	1.99	2.72	2.08	-0.64	-4.64	0.00
13	RSMH	0.93	1.09	1.25	1.18	1.28	1.50	2.03	2.00	1.66	1.12	1.80	0.68	4.66	0.00
Wilcoxon Signed Rank Test (z value)											3.15	2.78	-0.36	-0.68	0.26
Proportion of hospitals that change as predicted (z value)													46.15%	-0.28	0.61

Table 16
Bed Turn Over (BTO)

No	HOSPITAL	2001	2002	2003	2004	2005	2006	2007	2008	2009	MEAN			TEST OF STATISTIC	
											Pre	Post	Difference	t-value	*p*
1	RSCM	62.14	61.92	59.63	59.44	58.67	51.68	47.12	37.73	33.41	60.78	42.49	-18.30	-4.30	0.00
2	RSF	17.96	17.54	17.39	18.91	38.62	40.28	32.62	29.69	40.26	17.95	35.71	17.76	6.53	0.00
3	RSP	33.47	33.26	34.02	31.34	29.23	28.26	29.93	37.84	34.81	33.02	32.71	-0.32	-0.14	0.45
4	RSJHK	36.45	36.18	35.48	33.63	32.24	31.23	37.22	34.93	36.13	35.44	34.88	-0.56	-0.39	0.36
5	RSABHK	55.11	51.43	48.22	45.38	42.86	40.61	38.58	36.74	28.07	50.04	36.00	-14.04	-4.05	0.00
6	RSKD	21.63	22.13	22.15	22.12	22.50	23.00	28.70	29.00	21.00	22.01	25.43	3.42	1.69	0.07
7	RSHS	26.00	29.00	30.00	29.00	34.00	34.00	37.35	40.00	37.35	28.50	37.17	8.67	5.77	0.00
8	RSDK	88.97	83.04	77.85	73.27	69.20	65.56	62.28	59.31	56.62	80.78	60.94	-19.84	-5.10	0.00
9	RSDS	88.97	83.04	77.85	73.27	69.20	65.56	62.28	59.31	56.62	80.78	60.94	-19.84	-5.10	0.00
10	RSS	50.83	49.27	48.82	47.92	47.24	46.73	46.36	46.45	46.45	49.21	46.50	-2.71	-4.41	0.00
11	RSWS	88.97	83.04	77.85	73.27	69.20	65.56	62.28	59.31	56.62	80.78	60.94	-19.84	-5.10	0.00
12	RSMD	43.98	43.40	42.83	42.27	41.73	41.20	40.69	39.69	38.75	43.12	40.08	-3.04	-4.63	0.00
13	RSMH	83.04	77.85	73.27	69.20	65.56	62.28	44.83	47.00	54.16	75.84	52.07	-23.77	-4.81	0.00
Wilcoxon Signed Rank Test (z value)											50.63	43.53	-7.11	-1.87	0.03
Proportion of hospitals that change as predicted (z value)													23.08%	-1.94	0.97

Table 17
Outpatient – Doctor to Patient Ratio

No	HOSPITAL	2001	2002	2003	2004	2005	2006	2007	2008	2009	MEAN			TEST OF STATISTIC	
											Pre	Post	Difference	t-value	*p*
1	RSCM	19.20	22.20	21.80	23.40	23.80	23.82	21.60	22.90	24.09	21.65	23.10	1.45	1.39	0.11
2	RSF	17.01	16.20	19.80	17.01	14.50	18.30	16.20	17.01	19.80	17.51	17.83	0.32	0.29	0.39
3	RSP	19.30	19.80	19.80	19.60	20.50	19.70	19.60	21.00	22.30	19.63	20.65	1.03	1.59	0.08
4	RSJHK	12.80	14.50	13.20	13.20	14.50	22.82	24.03	25.42	28.47	13.43	25.19	11.76	9.24	0.00
5	RSABHK	18.30	17.90	18.50	19.00	18.30	19.30	19.00	19.60	19.80	18.43	19.43	1.00	3.47	0.01
6	RSKD	4.10	5.10	4.90	3.60	3.78	3.80	7.30	7.30	9.00	4.43	6.85	2.43	2.11	0.04
7	RSHS	19.80	21.80	22.40	24.30	29.60	28.30	29.20	29.32	29.40	22.08	29.06	6.98	7.26	0.00
8	RSDK	4.90	5.10	3.78	4.90	7.30	3.78	7.30	9.00	9.80	4.67	7.47	2.80	2.04	0.04
9	RSDS	9.80	9.00	14.50	9.80	13.20	12.80	14.50	13.20	22.82	10.78	15.83	5.06	1.89	0.05
10	RSS	3.78	4.90	5.10	4.90	3.78	7.30	7.00	6.22	7.00	4.67	6.88	2.21	5.83	0.00
11	RSWS	19.40	18.90	19.60	19.40	19.80	19.60	22.40	19.80	21.80	19.33	20.90	1.58	2.19	0.04
12	RSMD	4.90	4.90	3.78	5.10	4.90	3.78	7.30	6.20	5.10	4.67	5.60	0.93	1.14	0.15
13	RSMH	10.80	10.20	11.00	10.20	11.00	10.00	11.70	12.00	12.40	10.55	11.53	0.98	1.72	0.07
Wilcoxon Signed Rank Test (z value)											13.21	16.18	2.96	3.16	0.00
Proportion of hospitals that change as predicted (z value)													100.00%	3.61	0.00

Table 18
Outpatient – Nurse to Patient Ratio

No	HOSPITAL	2001	2002	2003	2004	2005	2006	2007	2008	2009	MEAN			TEST OF STATISTIC	
											Pre	Post	Difference	t-value	*p*
1	RSCM	19.20	22.20	21.80	23.40	23.80	23.82	21.60	22.90	24.09	21.65	23.10	1.45	1.39	0.11
2	RSF	17.01	16.20	19.80	17.01	14.50	18.30	16.20	17.01	19.80	17.51	17.83	0.32	0.29	0.39
3	RSP	19.30	19.80	19.80	19.60	20.50	19.70	19.60	24.00	22.30	19.63	21.40	1.78	1.65	0.07
4	RSJHK	12.80	14.50	13.20	13.20	14.50	22.82	24.03	25.42	28.47	13.43	25.19	11.76	9.24	0.00
5	RSABHK	18.30	17.90	18.50	19.00	18.30	19.30	19.00	19.60	19.80	18.43	19.43	1.00	3.47	0.01
6	RSKD	4.10	5.10	4.90	3.60	3.78	6.70	13.10	2.00	26.00	4.43	11.95	7.53	1.44	0.10
7	RSHS	19.80	21.80	22.40	24.30	29.60	28.30	29.20	22.90	29.40	22.08	27.45	5.38	3.00	0.01
8	RSDK	4.90	5.10	3.78	4.90	7.30	3.78	7.30	9.00	9.80	4.67	7.47	2.80	2.04	0.04
9	RSDS	9.80	9.00	14.50	9.80	13.20	12.80	14.50	13.20	22.82	10.78	15.83	5.06	1.89	0.05
10	RSS	3.78	4.90	5.10	4.90	3.78	7.30	7.00	6.22	7.00	4.67	6.88	2.21	5.83	0.00
11	RSWS	19.40	18.90	19.60	19.40	19.80	19.60	22.40	19.80	21.80	19.33	20.90	1.58	2.19	0.04
12	RSMD	4.90	4.90	3.78	5.10	4.90	3.78	7.30	6.20	5.10	4.67	5.60	0.93	1.14	0.15
13	RSMH	10.80	10.20	11.00	10.20	11.00	10.00	11.70	14.00	12.40	10.55	12.03	1.48	1.73	0.07
Wilcoxon Signed Rank Test (z value)											13.21	16.54	3.33	3.16	0.00
Proportion of hospitals that change as predicted (z value)													100.00%	3.61	0.00

Table 19
Inpatient – Doctor to Patient Ratio

No	HOSPITAL	2001	2002	2003	2004	2005	2006	2007	2008	2009	MEAN			TEST OF STATISTIC	
											Pre	Post	Difference	t-value	*p*
1	RSCM	28.20	29.50	32.40	31.20	33.40	32.50	30.80	34.70	35.00	30.33	33.25	2.93	2.16	0.04
2	RSF	28.20	26.50	27.20	27.30	27.40	27.75	25.80	27.75	27.20	27.30	27.13	-0.18	-0.30	0.39
3	RSP	3.20	3.60	3.10	4.00	3.20	3.80	4.20	4.00	4.60	3.48	4.15	0.68	2.53	0.02
4	RSJHK	26.90	27.20	28.20	26.50	25.80	27.20	26.80	30.29	27.75	27.20	28.01	0.81	0.94	0.19
5	RSABHK	3.20	2.80	3.10	4.00	3.20	3.00	4.00	3.00	4.60	3.28	3.65	0.38	0.80	0.23
6	RSKD	2.50	3.00	3.20	2.80	3.10	4.00	3.00	2.90	3.00	2.88	3.23	0.35	1.17	0.14
7	RSHS	2.70	3.00	3.00	2.80	3.00	3.80	3.20	4.11	5.20	2.88	4.08	1.20	2.82	0.02
8	RSDK	3.20	3.00	2.80	3.20	3.20	2.80	2.80	3.10	3.20	3.05	2.98	-0.08	-0.53	0.31
9	RSDS	3.00	2.80	3.00	3.00	3.00	3.20	3.20	3.00	2.80	2.95	3.05	0.10	0.93	0.20
10	RSS	1.29	1.35	1.40	1.30	1.29	1.30	1.29	1.08	1.20	1.34	1.22	-0.12	-2.06	0.04
11	RSWS	3.00	2.80	3.40	3.80	3.90	3.20	4.20	3.90	4.00	3.25	3.83	0.58	1.85	0.06
12	RSMD	3.00	2.80	2.70	3.10	3.00	3.20	3.20	3.00	2.80	2.90	3.05	0.15	1.13	0.15
13	RSMH	4.10	4.35	4.70	4.20	4.90	5.80	5.30	6.00	6.30	4.34	5.85	1.51	6.10	0.00
Wilcoxon Signed Rank Test (z value)											8.86	9.50	0.64	2.53	0.01
Proportion of hospitals that change as predicted (z value)													76.92%	1.94	0.03

Table 20
Inpatient – Nurse to Patient Ratio

No	HOSPITAL	2001	2002	2003	2004	2005	2006	2007	2008	2009	MEAN			TEST OF STATISTIC	
											Pre	Post	Difference	t-value	*p*
1	RSCM	2.30	2.40	2.60	2.56	2.78	2.43	2.32	3.00	3.02	2.47	2.69	0.23	1.15	0.15
2	RSF	3.40	2.98	3.02	3.00	3.01	3.30	2.97	2.94	2.80	3.10	3.00	-0.10	-0.67	0.26
3	RSP	1.98	1.99	1.87	2.20	1.98	2.00	2.20	2.00	2.30	2.01	2.13	0.12	1.13	0.15
4	RSJHK	5.73	5.79	5.88	5.83	5.72	5.84	5.80	5.86	5.84	5.81	5.84	0.03	0.85	0.21
5	RSABHK	2.00	1.60	1.98	2.40	2.01	1.99	2.38	1.87	2.40	2.00	2.16	0.17	0.78	0.23
6	RSKD	0.18	0.21	0.45	0.32	0.28	0.56	0.19	0.30	1.00	0.29	0.51	0.22	1.17	0.14
7	RSHS	2.18	2.28	2.25	2.19	2.20	2.38	2.32	2.45	2.51	2.23	2.42	0.19	3.98	0.00
8	RSDK	3.40	3.20	2.98	3.25	3.23	2.70	2.65	3.20	3.30	3.21	2.96	-0.25	-1.30	0.12
9	RSDS	4.00	3.20	3.40	3.35	3.30	3.60	3.45	3.02	2.79	3.49	3.22	-0.27	-1.06	0.17
10	RSS	0.59	0.54	0.92	0.71	0.67	0.81	0.78	0.42	0.63	0.69	0.66	-0.03	-0.24	0.41
11	RSWS	3.40	3.10	3.70	3.60	3.85	2.98	4.00	3.80	3.72	3.45	3.63	0.18	0.68	0.26
12	RSMD	3.20	3.00	2.89	3.20	3.00	3.30	3.10	3.15	2.90	3.07	3.11	0.04	0.35	0.37
13	RSMH	1.88	1.89	1.92	1.79	1.83	1.93	1.90	2.00	2.20	1.87	2.01	0.14	1.88	0.05
Wilcoxon Signed Rank Test (z value)											2.59	2.64	0.05	1.00	0.16
Proportion of hospitals that change as predicted (z value)													69.23%	1.39	0.08

CHAPTER 6

CONCLUSION

To compares pre- and post- performance of government agency in healthcare service that transform into Public Service Agency, this research used study case of thirteen central governments hospitals that automatically were changed into Public Service Agency in June 2005. The empirical result showed significant improvement in out-patient healthcare service. The number of patient in this service grew significantly at 1% significant level and 83.33 % hospitals experienced the increase of number of patient. In-patient health care service also showed significant growth number, but this growth was only experienced by 69.23% of the sample hospitals. It seems that people still had no confidence to be treated as inpatient in government hospital. This might be caused by the old and obsolete equipment and facilities owned by government hospital. To buy new equipment or build new facilities, it needs a lot of fund and central government could not provide the fund. Although a third party would like to provide the equipment, the regulation for cooperation with third party is still in a bottle neck.

The other weakness of the transformation is that the significant growth in the number of patients was not accompanied by the improvement in internal management. Most of the hospitals was still using old management system, this old system could not detect any fraud and waste because it still recorded transaction manually. This condition caused high operating cost to the hospitals, and they might have difficulties to make financial report. This condition was shown by insignificant increase in profitability indicator.

In overall result, the performance of the government agencies after

transforming into autonomous state agencies did not improve significantly. This condition could be caused by two factors. First factor is the internal condition. The government agency was not ready to operate business-like, by simply providing flexibility it does not mean that they can perform better. It needs good managerial skill that is supported by skilled staff and adequate facilities to make organization to be able to operate more efficiently and effectively. Administrative requirement evaluation is only evaluate agency promises, it does not evaluate agency's readiness for operate in business-like.

Second external condition, such as Line Ministries, Auditor Board, and also all Directorate General under Ministry of Finance, did not have any consensus about which flexibility that should be given. Although according to government regulation 23/2005 all technical procedures must be completed in June 2006, but it had not been completed until now. Even by Law, the flexibility should be given, but the relevant authorities still hesitated to loosen their control. They doubt that the agency will not act arbitrarily after they get the flexibility.

Without technical procedures, Public Service Agency cannot use their flexibility, and without flexibility, government agency could not compete with private sector. Korea failed to create executive agency because uncoupling was not accompanied with flexibility and consequence (Park, 2010). Wilson (1989) mentioned that if we will government to "provide the same product or service delivered by private sector" then we should reduce the constraint.

However, providing flexibility without strengthening the control would be a total failure. Although first Public Service Agency has already been created since 2005, but neither monitoring nor evaluation have been done to the agency. No single punishment has been imposed to bad performer government. In the end, there is no

difference between Public Service Agency and regular agency, all the red tapes are still intact.

CHAPTER 7

RECOMMENDATION

To solve the problem, it is suggested that we use control strategy (Park, 2010). This is the strategy to control the agency when the organization shift the control away from the top and center. Creating autonomous state agencies is basically shifting the control from line ministries to the agencies.

First, it is necessary to get clear on the mission. The mission of creating public service agency is to improve service quality and efficient government operation by removing the constraint that we believe as the main cause of why government agencies have poor performance. It is important to build a consensus among regulator so that they would agree with this mission.

Second, it is essential to set clear and measurable goal for the agency. This goal is a contractual agreement between line ministries and their agencies, and it should be reliable to measure the improvement in performance. In government regulation No. 23/2005 it is written about an obligation for the agencies to set a goal, but so far they only put activity volume as a target, while service quality and efficiency never became a target. Even some of them had already tried to put service quality as a target; however it could not be evaluated. Therefore, another important thing is that the target should be measurable.

Third, It is important to give trust. Without trust, nothing will work well. The target will not be achieved. If the regulator is still afraid that the agencies will act arbitrary, they will never give flexibility. So, the first priority is that we must trust the agencies that they have good intention to provide better service. But before we give trust we must evaluate them, not only evaluate their target but we must also evaluate

the readiness of the agency to operate in business-like.

Fourth, it is necessary to verify the result. We have to make sure that the agency is on the right path by monitoring and evaluating the result. Monitoring and evaluation cannot be done only to financial indicator, that is the reason why ministry of finance should make coordination with line ministries when make evaluation on the agency's performance.

Fifth, it is crucial to hold agency accountable for the result. It would be better if we give punishment to the agency that could not achieve the target. The most reasonable punishment is to write-off the flexibility, but we cannot easily impose it. We Should give the agencies three chances, if they still could not improve their performance and could not give the explanation, then the punishment could be imposed. The reason why the punishment is to write-off the flexibility is that it would not make any difference whether they are regular agencies or Public Service Agencies.

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