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Analysis of Subcontracting in the Construction Industry in Indonesia

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Abstract- *This paper presents an empirical analysis and justification on collaboration between small and large enterprises through strengthening partnership (subcontracting) in order to strengthen the contribution of the construction sector in the national economy. Some conclusions that can be taken that: (i) the construction of market share inequality can be balanced with application the partnership (subcontracting); (ii) Siding with non-small enterprises/large (mostly foreign entities) will push the capital outflows and reduce the competitiveness of the nation; (iii) Strengthening the supply chain through partnership scenario (subcontracting) on the entire flow of the chain will support the role of small business concerns in seizing the national construction market; (iv) weakness of collaboration patterns can be reduced by setting policies that favor (affirmative) the existence of a small body as part of the construction industry; (v) The construction market continues to increase is not offset by an increase in the construction market of small business entities resulting gap portion of the acquisition capitalization construction. (vi) Policy subcontracting by small business entities will potentially increase the absorption of the construction workforce (value added) and construction GDP in national GDP and consequently increase economic growth as an indicator of the competitiveness of nations.*

Keywords- *inequality, construction market, partnership, subcontracting, small and large enterprise*

1. INTRODUCTION

In considering the balance of supply and demand of goods and services, construction required estimating the size of the capacity of the construction industry in the construction market. In Indonesia, the amount of condition demands only being presented in general and can be estimated well. On the supply side, the available data are very limited and inaccurate information which cannot be unequivocally assigned to support the capacity of national construction industry. Furthermore, the lack of clarity of information construction market also led to market concentration is not uniform, and can only be accessed by a certain group of business entities and eventually will reduce healthy competition among suppliers. On the demand side, a posture imbalance occurs, construction enterprises around almost 90% is still dominated by small firms than large and medium-sized enterprises. Whereas 15% of the construction market contested by small business concerns while the remaining 85% owned by a large corporation that is only inhabited by 10%. [1] This condition, according to Radhi (2012) lead to several implications: (i) competition in the construction market of small scale become unhealthy and distorted, (ii) difficulties in entering the market (barrier to entry), and (iii) market share controlled by certain parties. [2]

The construction market in Indonesia has become distorted due to pseudo competition through a brokerage or rent seeking and the emergence of pseudo contractor (shadow players) caused by political transactions. [3] This distortion causing high transaction costs and lowering the economic competitiveness of the nation. Concentration of the construction market is still dominated by general contractors characterized by contractors with many business fields, very few specialists and many of the emerging contractors who have little or no professional or even "pseudo" in construction. A more concerned condition is that the national construction market still dominated by 60% of foreign entities. This dominance is only inhabited by 10%. However, the national construction services players which amount only 90%, only 40% enjoy the total potential market.

In fact, data from the Ministry of Public Works (2009) stated that the total construction market in Indonesia reached to Rp170 trillion. Conceivably the large amount of capital of the country will run out to foreign countries, result to lack of competitiveness of the nation and be " a guest" in their own country. [4]

Ministry of Public Works (2010) released the importance of the implementation of supply chain systems in supporting an independent national construction industry. Supply chain (SC) is a system that includes players, supplier, manufacturer, transportation, distributors, vendors, and sponsors were created to transform raw materials into a final product and supply them to the end user. [5] Therefore, control of the SC shall include all parties involved in the supply of resources from upstream to downstream activities. In fact SC issues facing the following challenges: (i) SC construction has not been well

integrated nationally, (ii) the lack of competition between the SC which is characterized by a pseudo competition and not long-term, (iii) there are differences in the relationship between procurement and implementation phases, (iv) the contractor localization occurs. [6] Therefore, we need a policy in favor of the small business entities and moreover to be players their own country. A policy such as the strengthening of the system of collaboration between large and small enterprises are offered in the form of subletting, subcontracting and partnership.

2. APPLICATION OF SUBCONTRACTING

Construction resources can be managed well with the application of the use of subcontractors. The subcontractor is a specialty contractor that is doing some construction work, sometimes serves as an agent of the company's production system to supply the construction materials, labor, equipment, spare parts and even design. [7] Subcontractors as a construction company that does contract with the main contractor to do some specific work items. The form of contract will be done separately with the main contract and will be completed before the main contract is completed.

So that subcontracting is an engagement contract or legality of a construction project cooperation. In general, subcontracting done by the main contractor to submit a minor or special work to subcontractors, this trend will continue to be done simultaneously with the size of the value and volume of the main work. Classification subcontracting divided into several types: (i) equipment and (ii) labor intensive. [7]

In Indonesia, subcontracting regulated in chapter 87 Paragraph of Presidential Regulation No. 54 2010 on the Procurement of Goods / Services says: "Providers of Goods / Services may assign execution of major work under the Contract, by subcontracting to other parties, except most of the major job provider of goods / services specialists". But that referred to "major work" and "not the main job" or no information whatsoever. So often happens multiple interpretations because the main job is interpreted as an item of construction work so it is unclear what is meant by the term "provider of goods/services specialists". [9] When referring to the law number 18 of 1999 on Construction Service implementation arrangements work construction work contract stipulated in chapter 22 Paragraph 2. Contains a description of the parties, the formulation of the work, the insured and / or maintenance service providers, experts, rights and obligations, method of payment, breach of contract, dispute resolution, termination of employment contract construction, force majeure, failure of buildings, protection of workers, and environmental aspects. Further in paragraph 7 only contains about "sub-service" (Law number 18 of 1999).[10] Furthermore, the law does not recognize the term main work, but recognize "service providers" and "sub-service" (chapter 24). [10]

3. IMPLEMENTATION SUBCONTRACTING OPPORTUNITIES

In the Latham and Egan report (1998) stated that in the implementation of construction projects have experienced cost overruns, delays and low productivity. The report recommended some changes needed to be done and make a breakthrough to reduce the problem of cost, time and errors. One of them needs to be integrated in the presentation of the construction process through a strategy of building partnerships (subcontracting) that in order to improve the performance. [11] [12] Opportunities application of partnership/subcontracting cannot be separated from the application of supply chain (SC) is adopted from manufacture sector. [11] However, some modifications need to be adapted to the context of the construction industry, which has a temporary, fragmented, complex and one product in each production. [5] [14] The role of the SC construction will strengthen the position of all suppliers of construction materials and equipment involved. [15] Strengthening the legal bonding is done through the partnership / subcontracting between a supplier or subcontractor to the main contractor.

On a scale of productivity, the application of subcontracting on a construction work becomes more economical. The work beyond the capability of the main contractor and requires substantial resources and expensive it can be handed over to the specialization / subcontractor. Involvement can be reached by strengthening coordination among the parties to a contract at the same location and production. [16] Furthermore, the dynamics of competition, location and organizational structure of the company to move an ever-changing forcing construction companies to submit a special work to sub spesialist/subcontractor. [17] –[19] This pattern can create synergy and effectiveness between suppliers and obtained a long-term relationship. [20]

Facing competitive and dynamic construction business, the construction company will be forced to always adapt to the situation and the complex organizational structure adjustment. [17] Furthermore, the location of which is always moving and different, if only reinforced specialization/subcontractor is required to handle specific work that can support the main contractor [18], [19]. The presence of a partnership through partnering can be also be a solution to improve performance of the construction process so as to create synergy and effectiveness of resources among suppliers of construction and long-term relationship is obtained. [20] At the location of work, the advantage of achieving better profits, the distribution of risk and avoid defects during work and time into a short. [21]–[23] Therefore, the importance of partnership needs to be preceded by a survey of work or responsibilities that will be transferred and subcontractors understand the true condition prior to signing the cooperation clause of the agreement (subcontracting).

4. THE CHALLENGE OF SUBCONTRACTING

Inability to manage the partnership can be brought tension, an adversarial relationship between contractors and subcontractors [12], [24], the complexity of the chain layers (tiers) [25], and the fragmentation process of presenting products [26]. Selection of subcontractors are particularly vulnerable to mistake searching good performers and prone to extreme fluctuations in market economy resulting in the prevalence of the bankruptcy and the application of bad business practice [27]. Selection of subcontractors by offering the lowest price does not always guarantee would result in construction costs will be low, so it takes extra time and effort to choose a quality, financially strong and adequate schedule[28].

In Indonesia, a subcontractor found that some practices such as CCN (Collusion, Corruption and Nepotism), the ability of human resources, equipment and capital is still low,; habit to pay a fee first project, which is about 8% of the full value of the project and finance with no money down and must be willing to be paid when the work is over 100% completed. Small contractors also difficult to get capital support from banks and face delayed payments often very long or not appropriate and sometimes not paid as stated in the agreement.[1]

In Table 1 and Figure 1 are presented the potential value of the contract subcontractors are still very small compared to the value of the work completed on the project in Indonesia. In fact the contract value or the market value of this construction is increasing from year to year. This potential is very open to work on if there is a political will of stakeholders to maximize the role of small enterprises through partnerships.

Table 1. Value of completed construction, Construction enterprise and Value of subcontracted work.

Year	Value of completed construction by Type of work Juta Rupiah	Total Construction enterprise Juta Rupiah	Value of subcontracted work Juta Rupiah
2000	28.085.040,00	62.480,00	1.275.191,00
2001	30.750.127,00	72.421,00	1.465.456,00
2002	35.080.235,00	78.074,00	2.216.440,00
2003	39.050.643,00	79.867,00	1.444.779,00
2004	56.004.538,00	79.422,00	1.706.517,00
2005	67.317.919,00	81.260,00	727.518,00
2006	71.943.307,00	95.072,00	724.593,00
2007	81.674.972,00	113.618,00	582.485,00
2008	102.015.600,00	139.322,00	4.730.702,00
2009	114.267.319,00	151.537,00	4.744.969,00
2010	125.031.040,00	130.432,00	4.744.969,00

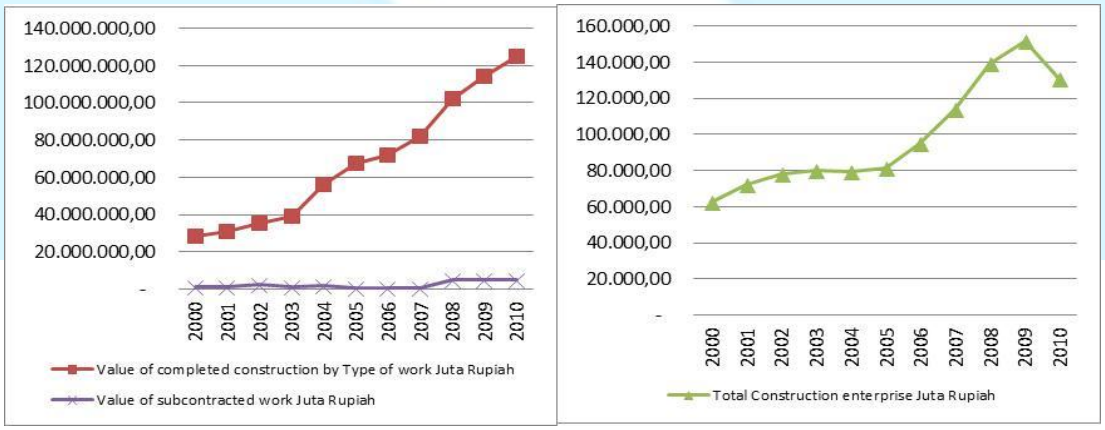

Figure 1. Distribution of Value of completed construction, Construction enterprise and Value of subcontracted work.

5. THE IMPORTANCE OF SUBCONTRACTING ANALYSIS TO SUPPORT CONSTRUCTION INDUSTRY COMPETITIVENESS IN INDONESIA

Analyses used data national construction sector and the Central Bureau of Statistics from 2000 to 2010 because since the 1998 financial crisis, conditions of the construction sector are relatively more stable after 2000 [29], [30]. In 2012, it has registered more than 180,000 construction enterprises and approximately 6,600 consulting firms in the National Construction Services Development Board (LPJKN). Composition enterprise consultants and construction contractors who have registered qualifying posture 1% large, 11% medium and 88% smaller, while the consulting firm posture qualification is large 7%, 4% medium and 89% small.

In Table 1 and Figure 1 shows the value of the expenditure or the value of completed construction work continued to rise since 2000 with an average growth of 16.52%. While the value of subcontracted work and the fluctuating value when compared with the value of completed construction has only an average of 3.43% only. These values are far less than expected by the idealization of government by 20%. [1] If assumed, the value of completed construction work (construction market value) as much as 85% controlled by non-small enterprises (12% medium + large 1%) amounts to 13%. While 15% of the construction market contested by a number of small enterprises 87% of the overall construction enterprises. In the end, the comparison of the proportion of the construction market between non-small enterprises and small high enough that (ratio 1: 38). This means that if the market value of the construction in the fiscal year or the current year non-small enterprises obtain construction market as much as 38 times compared to small business concerns. This value is certainly a very large gap and it is not ideal to support healthy competition. (Appendix).

6. CONSTRUCTION MARKETS AND COMPETITIVENESS OF THE CONSTRUCTION SECTOR

Expenditure value in Indonesian construction sector continues to increase, but was not followed by the addition of the value of construction done by small business entities and even tends to remain. In fact, the market potential for small business entities to get involved consistently through partnerships (subcontractor) will affect the general economy. According to Ive and Gruneberg (2000), the number of small business entities that many potential multiplier effect on the chain that is in the national economic system. [31] Furthermore, there will be an increase in workers absorbed, input materials, equipment, and financial services. In the macro economy, The value of wages for a year as a value-added construction sector at a national economic system. This value will be accumulated into the national GDP (Gross Domestic Product) in the construction sector. In the end, The higher value-added sectors of the construction will improve the GDP contribution of the construction sector. The contribution of the construction sector as national GDP increment is referred to as an indicator of economic growth and economic performance of a nation. Todaro and Smith (2003) and WEF (2010) calls if the rate of economic growth of a nation that is high, indicating the strength of the nation's competitiveness. [32], [33] While Porter (1990) look at the context of the competitiveness of the labor productivity of a nation. [34] So the increase in the construction workforce through small business entities, partnerships can improve the competitiveness of a nation. Illustrative description of the role of partnership strategies to increase the nation's competitiveness can be explained in Figure 2.

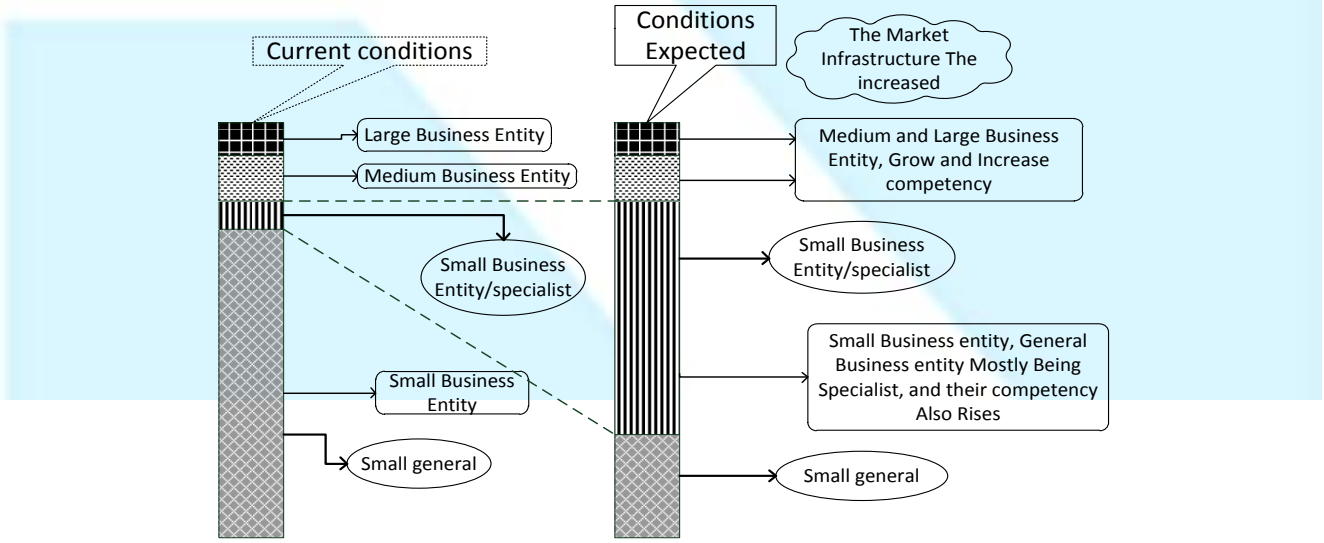

Figure 2. Model Development Strategy Partnership Enterprise Generalists and specialists (Soemardi, 2012).

7. DISCUSSION

Opportunities application of the partnership (subcontracting) has the potential to position in the construction industry served to increase the competitiveness of the Indonesian nation. Implementation of policies subcontractors can balance supply and demand in a construction industry. Inequality and imbalance of the construction market for construction business entities implicated in unhealthy competition, distorted and difficult to enter the market dominated by certain parties. In fact, most of the construction market dominated by large business and foreign business entities which causes the flow of capital will flow out of the country and is not absorbed in the country.

Implementation of supply chain (SC) in the national construction industry since 2010 into a big opportunity to can be develop small business entities through partnerships with subcontracting scenario. Subcontracting role has been demonstrated in the process of construction project delivery as a solution to improve performance of the project such as the supply of materials, labor and equipment. Strengthening the position throughout the entire SC through subcontracting legality bond can reinforce the achievement of economies of scale in a more stable way and kind of risk sharing such as loss costs and time to the other party. Opportunities application of the subcontracting system is not only profitable, but there are also some challenges that must be overcome if it is not managed properly. The involvement of multiple parties (tiers) will bring tension, an adversarial relationship, vulnerable to market volatility and extreme economic conditions, and prone to bankruptcy and bad business practice.

In Indonesia, the size of the construction market has the potential to implement subcontracting. The growth of the value of construction work completed each year continues to increase while the value of the work that the subcontractor is still very low (3-5%). While the portion of the construction market for small businesses than large businesses in Indonesia is still very low with a ratio of 1/38, this figure 2 shows the inequality gap which can be degraded the performance of the construction industry nationally. The ideal proportion of the construction market will be directly related to a nation's competitiveness in the world economy.

The ideal construction market is the inclusion of small firms (subcontracting) that can absorb labor and improve the added value of the construction sector. Increasing the value added of construction will be accumulated through construction GDP and national GDP. Ultimately indicator employment rates and GDP would be a sign that the construction sector is a contributor to a country's competitiveness.

8. CONCLUSIONS

Some of the conclusions as follows:

- Inequality construction market can be balanced with policies partnership through a legal contract engagement (subcontracting).
- Alignments policy on non-small business entities (large) mostly filled by foreign business entities in control of the construction market will push the capital outflows from the country that will weaken the contribution of the construction sector in the national economy.
- Strengthening the construction supply chain system through a subcontracting scenario in the entire chain flow and take advantage of opportunities to support the implementation of partnering system and the role of small business concerns in seizing the national construction market.
- Weakness partnership (subcontractors) can be minimized through management and policy settings to the existence of affirmative small business entities as part of the national construction industry.
- If the potential of the construction market continues to increase is not offset by an increase in the construction market of small business entities, the gap will cause each party's share of the construction market.
- Potential application of subcontracting policies through small business concerns will improve construction employment and an increase in value added in the construction sector of the national economy.
- Accumulation of employment and value added by the construction sector revenue in construction GDP and national GDP will improve national competitiveness.

9. RECOMMENDATIONS

- Based on the above, some policy recommendations [1]:
- Actors construction services to a variety of business scale seeks mutually cooperate and collaborate in a mutually beneficial partnership model (a win-win partnership).
- The policy pro-partnering. The necessity obliges non-small business entities (national and foreign) partner with small business concerns on any construction work, strengthening the control of the engagement contract administration and subcontracting as an instrument of the rule of law between the parties.
- The need for setting of sub classifications and sub specialization qualification in order to encourage businesses and improve the management capacity of small business entities.
- The need for system development and technical assistance to transition from small and medium business entities into small and medium enterprise specialist contractors.
- The need for the provision of incentives and affirmative, so as to increase the capacity of its own enterprises.

- Strengthening policy capacity of small business entities can be considered some of the conditions that:
- Required a detailed survey of the capacity and qualifications of the contractor should be based on the principles and objectives,

i. Balance that large construction companies are becoming increasingly large and small and medium enterprises are also growing,
ii. Understanding local content for construction work in the area can be interpreted as a requirement of participation in regional contractor,
iii. Work ethos, capacity, competence and competitiveness of local contractors is still not comparable with national and foreign contractors,
iv. The elimination of the requirement the amount of 20% work to be subcontracted on government procurement,
v. Too easy to give permission to the new contractor and
vi. Understanding healthy restrictions on the number of contractors both nationally maximum 30,000 small, medium and large.

- Strengthening the SC needs to separate the development from project management. Strengthening the system can be done by utilizing the Corporate Social Responsibility CSR for development from large contractors to small and medium contractors specialists as part of the SC family. Guidance to the specialization from the SC is to be preceded by the implementation of good governance.

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Appendix I

Year	Construction value Completed by Type of Work	Growth Construction Completed by Type of Work	Construction Market Non-Small Business	Construction Markets Small Business Entity	Construction business entities	Large Business Entity	Medium Business Entity	Small Business Entity	Subcontracting Value	Percentage Subcontracting Value To Construction value Completed by Type	Proportion of Construction Market to each non Small Businesses Entity	Proportion of Construction Market to each Small Businesses Entity	Proportion Ration of Construction Market non-Small Business
	million rupiah		million rupiah	million rupiah	million rupiah	Unit	Unit	Unit	million rupiah	percentage	million rupiah	million rupiah	
	a		b	c	d	e	f	g	h	i	j	k	l
			a x 85	a x 15		d x 1 %	d x 12 %	d x 87		a / g *100 %	b / (e + f)	c / g	j / k
2000	28.085.040,00		23.872.284,00	4.212.756,00	62.480,00	624,00	7.497,00	54.357,00	1.275.191,00	4,54%	2.939,57	77,50	37,93
2001	30.750.127,00	9,49%	26.137.607,95	4.612.519,05	72.421,00	724,00	8.690,00	63.006,00	1.465.456,00	4,77%	2.776,46	73,21	37,93
2002	35.080.235,00	14,08%	29.818.199,75	5.262.035,25	78.074,00	780,00	9.368,00	67.924,00	2.216.440,00	6,32%	2.938,33	77,47	37,93
2003	39.050.643,00	11,32%	33.193.046,55	5.857.596,45	79.867,00	798,00	9.584,00	69.484,00	1.444.779,00	3,70%	3.197,17	84,30	37,93
2004	56.004.538,00	43,42%	47.603.857,30	8.400.680,70	79.422,00	794,00	9.530,00	69.097,00	1.706.517,00	3,05%	4.610,99	121,58	37,93
2005	67.317.919,00	20,20%	57.220.231,15	10.097.687,85	81.260,00	812,00	9.751,00	70.696,00	727.518,00	1,08%	5.417,04	142,83	37,93
2006	71.943.307,00	6,87%	61.151.810,95	10.791.496,05	95.072,00	950,00	11.408,00	82.712,00	724.593,00	1,01%	4.948,36	130,47	37,93
2007	81.674.972,00	13,53%	69.423.726,20	12.251.245,80	113.618,00	1.136,00	13.634,00	98.847,00	582.485,00	0,71%	4.700,32	123,94	37,92
2008	102.015.600,00	24,90%	86.713.260,00	15.302.340,00	139.322,00	1.393,00	16.718,00	121.210,00	4.730.702,00	4,64%	4.787,88	126,25	37,92
2009	114.267.319,00	12,01%	97.127.221,15	17.140.097,85	151.537,00	1.515,00	18.184,00	131.837,00	4.744.969,00	4,15%	4.930,57	130,01	37,92
2010	125.031.040,00	9,42%	106.276.384,00	18.754.656,00	130.432,00	1.304,00	15.651,00	113.475,00	4.744.969,00	3,80%	6.268,14	165,28	37,93
	average =	**16,52%**								**3,43%**			
	Assumptions: Construction Completed by Type of Work equal to the Construction Market Value									average			

Table 2. Analysis Value of Construction Work subcontracting

Year	Percentage Subcontracting Value To Construction value Completed by Type of Work	Proportion of Construction Market to each non Small Businesses Entity	Proportion of Construction Market to each Small Businesses Entity	Proportion Ration of Construction Market non- Small Business Entity to Small business entity
	percentage	million rupiah	million rupiah	
	i	j	k	l
	a / g *100 %	b / (e + f)	c / g	j / k
2000	4,54%	2.939,57	77,50	37,93
2001	4,77%	2.776,46	73,21	37,93
2002	6,32%	2.938,33	77,47	37,93
2003	3,70%	3.197,17	84,30	37,93
2004	3,05%	4.610,99	121,58	37,93
2005	1,08%	5.417,04	142,83	37,93
2006	1,01%	4.948,36	130,47	37,93
2007	0,71%	4.700,32	123,94	37,92
2008	4,64%	4.787,88	126,25	37,92
2009	4,15%	4.930,57	130,01	37,92
2010	3,80%	6.268,14	165,28	37,93
	3,43%			
	average			

Appendix II

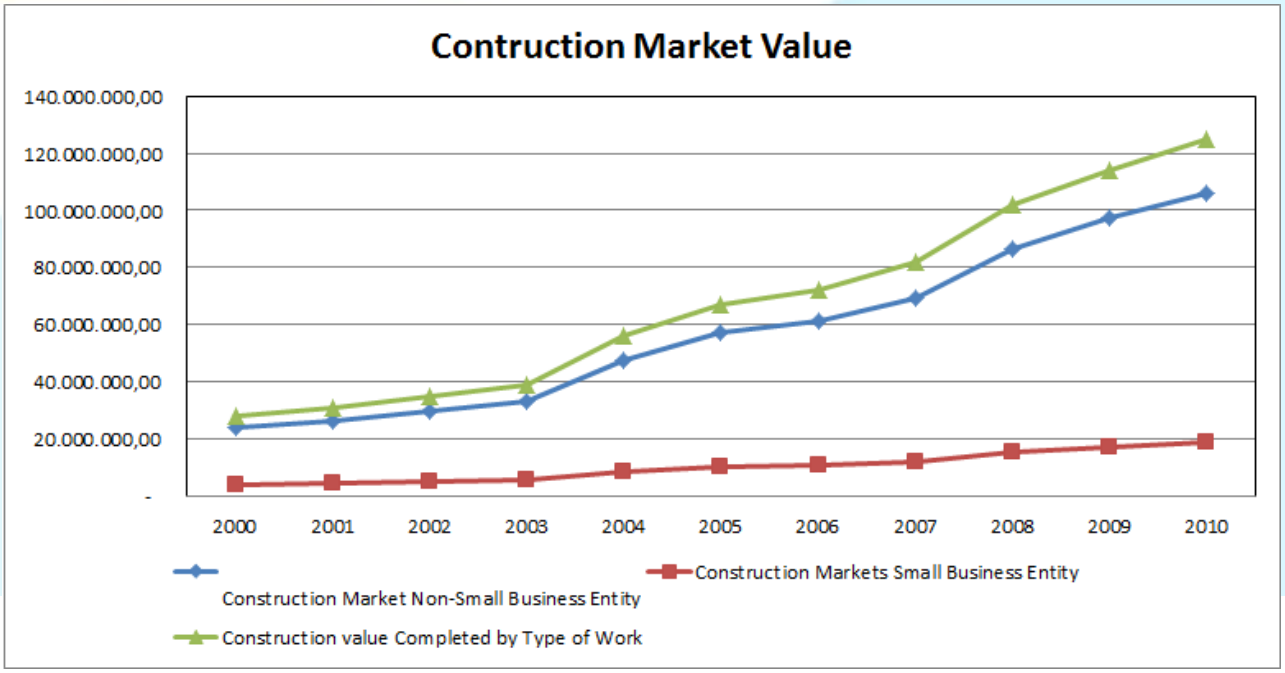

Figure 3. Distribution of Construction Industry Market Value, Small and Non-Small Business Entities

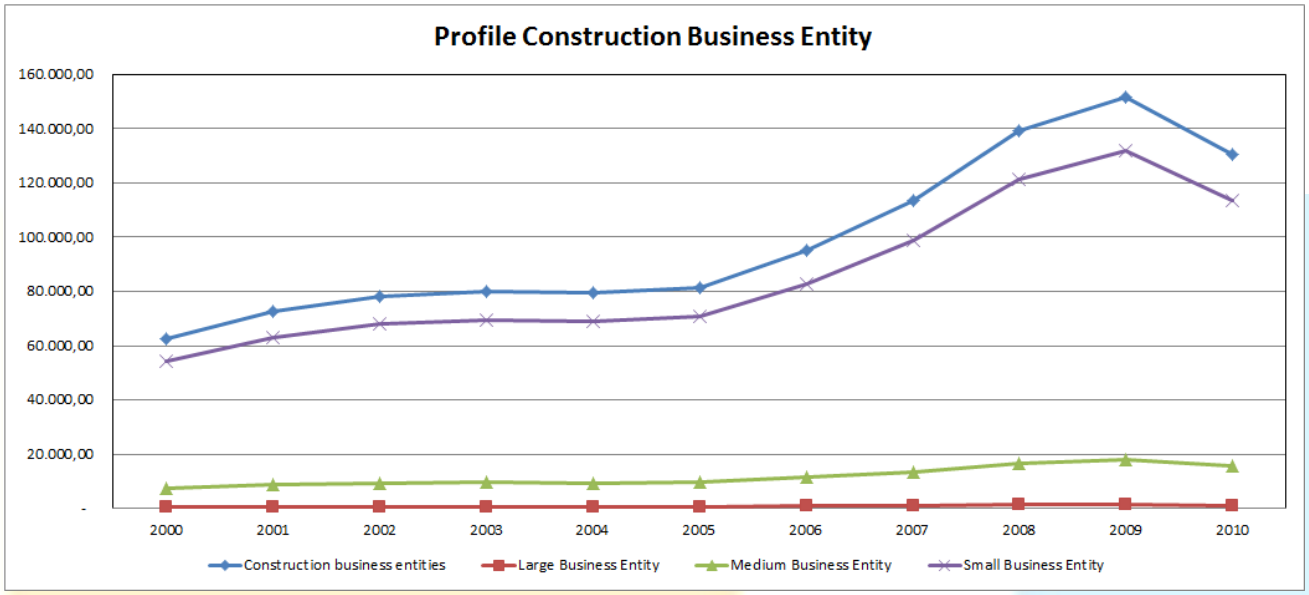

Figure 4. Profile Number of Construction Business Entity in Indonesia

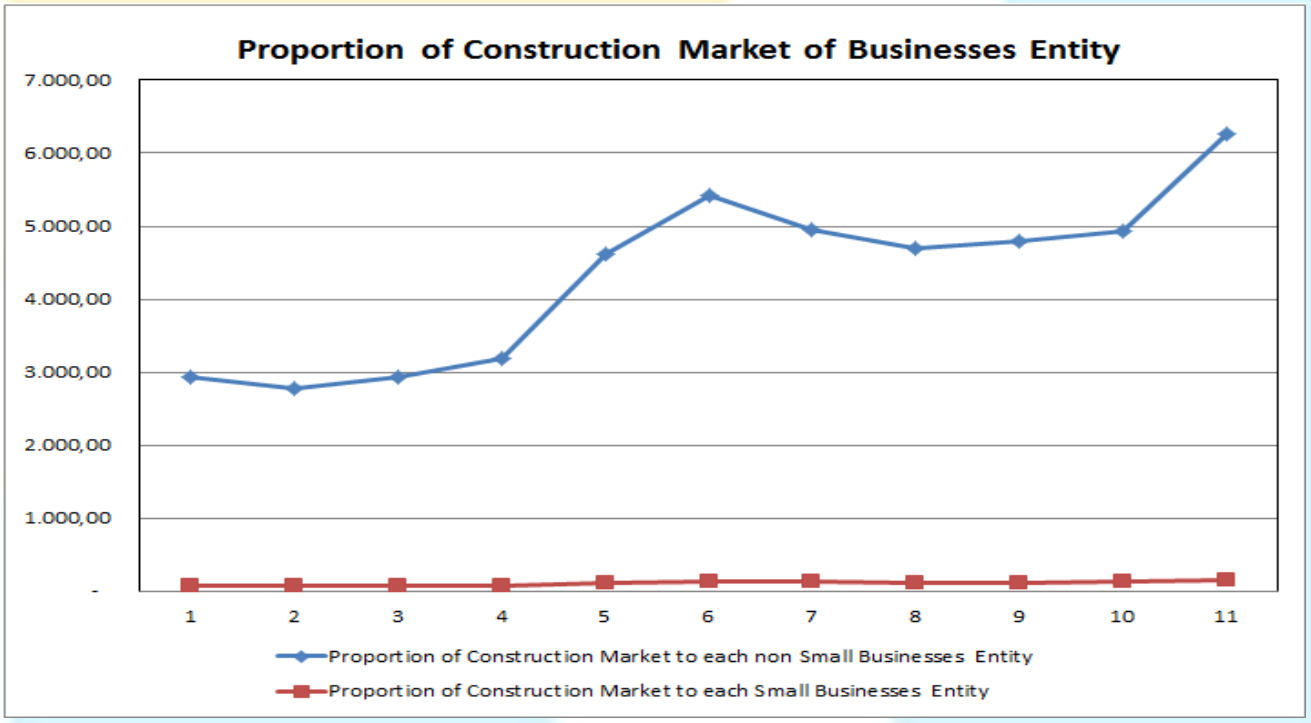

Figure 5. Proportion of Construction Market Business Entity in Indonesia

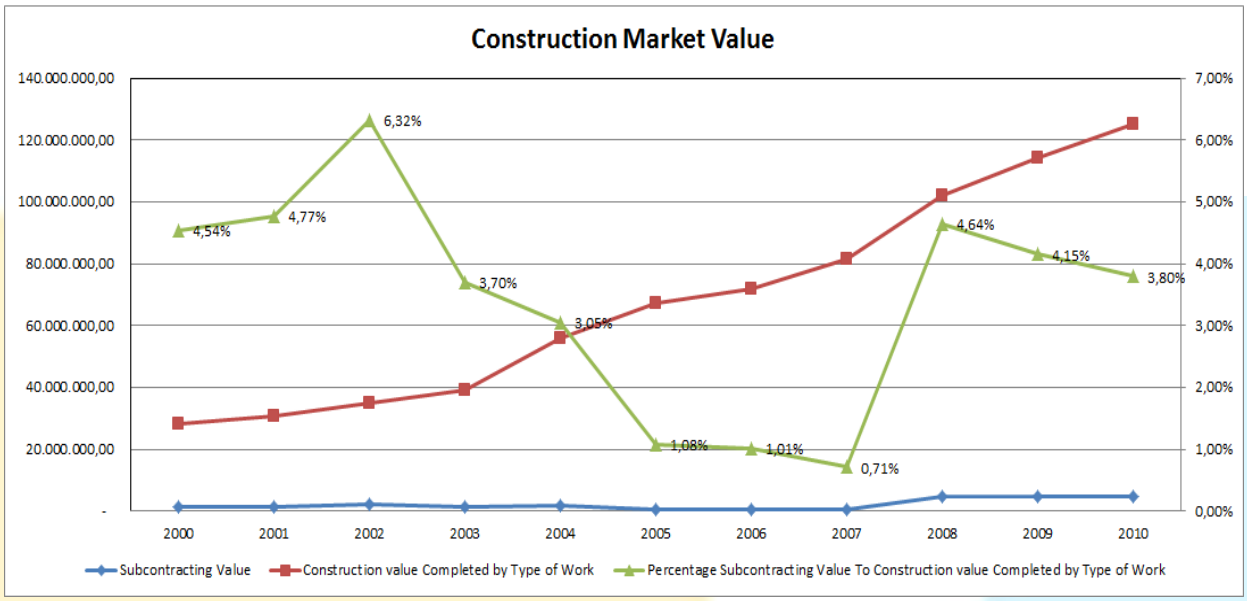

Figure 6. Construction Market Value and Percentage Subcontracting Value