

CHAPTER 1 INTRODUCTION

Chapter 1 describes the main motivation of doing a comparison of tendering systems of construction work between Taiwan and Ukraine. It explains the problem statement of this comparison and shows the research objectives and scope of this research. It also provides the methodology and the main steps which should be done to do a comparison of tendering systems of construction work between Taiwan and Ukraine.

1.1 Motivation

The basic motivations to compare and analyze tendering systems between Taiwan and Ukraine are the following:

- At the present time a mutual business relationship is very quickly developing between Taiwan and Ukraine;
- The two countries have different cultural, technical and technological bases of construction and are located in different parts of world;
- Countries want to learn something about the tendering experience of different countries;
- What must countries learn about the similarities and differences between each other to do international marketing?

1.2 Problem Statement

The aim of this research is to compare the tendering systems of construction work between Taiwan and Ukraine. The structures of this thesis are as follows:

- How to make part in the tendering process;
- What needs to be done to award contracts;
- How Taiwanese and Ukrainian governments can influence the tendering process; what Taiwan and Ukraine have in common and what are their differences;

- To summarize the characteristics of the tendering systems and to show what Taiwan can learn from Ukraine and what Ukraine can learn from Taiwan;
- To investigate what Taiwanese Companies should know in order to join the tendering process in Ukraine and what should Ukrainian Companies know in order to join the tendering process in Taiwan in the future.

The research area includes the main steps of Construction Companies in Taiwan and Ukraine to tender bids, from how to find the tendering process until signing a contract, and by which regulations and how governments can have influence in a tender (Figure 1-1).

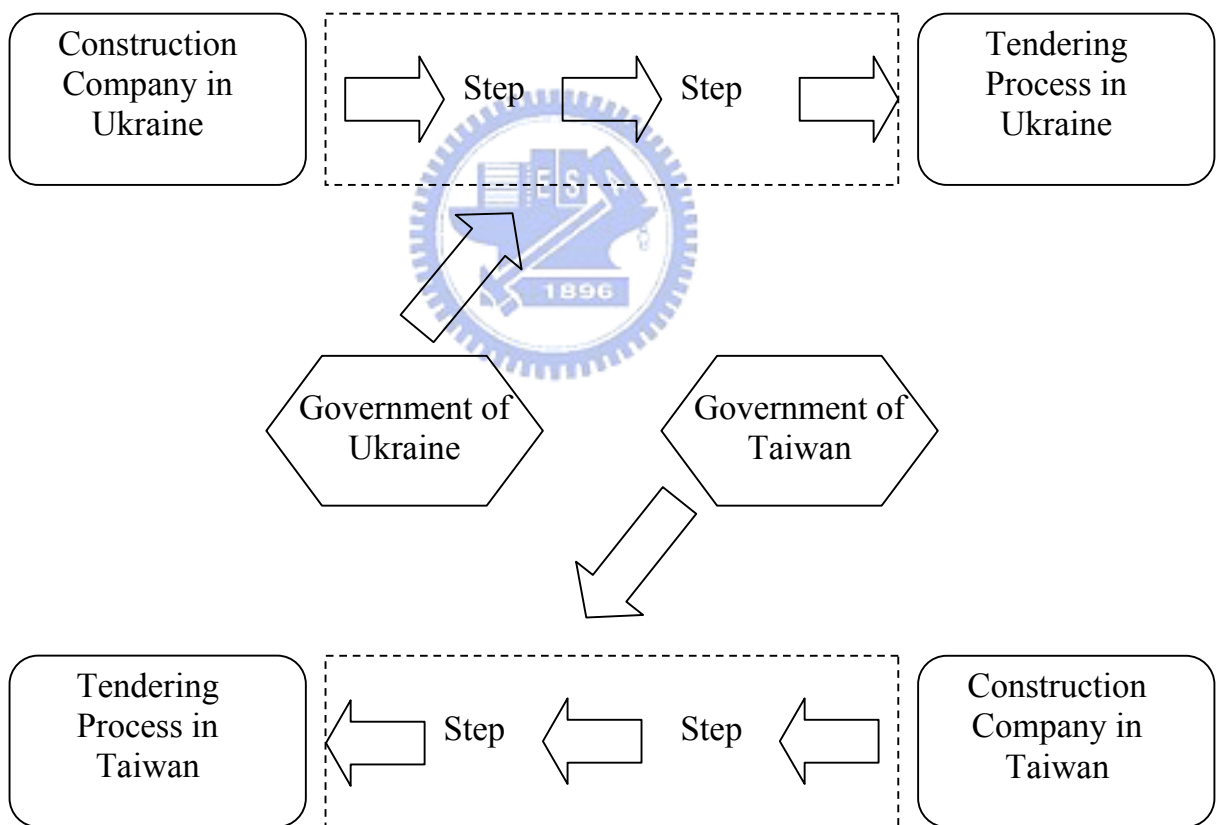


Figure 1-1 Research Area

1.3 Research Objectives

The research objectives of this thesis are as follows:

1. To compare the procurement laws of Taiwan and Ukraine. It will show what are the differences of the tendering systems between Taiwan and Ukraine, what information can we use to innovate our structure of tendering process, and how can we fix some problems.

2. To collect data and create databases, and to analyze the data. The databases included the most important regulars and statistics about indicators of construction branch in Taiwan and Ukraine. And also will shows what is the same and different in construction area in both countries.

3. To show what can we learn from this research and how can we use results of this research.

1.4 Research scope

This research uses the Taiwanese Government Procurement Act of January 1, 2002, and the Ukrainian Temporary Government Procurement of Goods, Works and Services of March 28, 2008. Ukraine uses the Temporary Government Procurement because Ukraine became a World Trade Organisation (WTO) member in May 16, 2008 and is now preparing a new Government Procurement Law. Additionally, this research only focused on the “tendering system” of government procurement law.

1.5 Methodology

In this research the same main steps that have been used in similar comparisons in a past studies. The methodology has three main steps:

- Collect data and create databases;
- Understand and analyze databases;
- Comparison of databases.

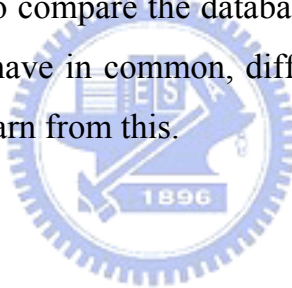
1. The first step is to collect data and created databases. The databases included regulation and statistical databases. The regulation databases included

all government regulations about the tendering systems in Taiwan and Ukraine: Taiwanese Government Procurement Act and Ukrainian Temporary Government Procurement of Goods, Works and Services. The statistical databases included the most important statistics about construction indicators of construction branch in Taiwan and Ukraine: the number of construction companies, fixed construction assets, profit rate, annual revenue, government capital investment into construction, the number of award contractors.

The main sources that were used in this research are National Statistics for Republic of China and Public Construction Commission, and State Statistics Committee of Ukraine.

2. The second step is to analyze the databases. This step also includes detailed data handling, meeting with people who work in the construction sphere in Taiwan and Ukraine, and sharing their experiences and suggestions.

3. The last step is to compare the databases. This will show and explain what Taiwan and Ukraine have in common, different or both in their tendering systems and what we can learn from this.



1.6 Thesis outlines

This thesis consists of six chapters.

Chapter 1 Introduction: motivation, problem statement, research objectives, research scope, methodology, thesis outline.

Chapter 2 Literature review: general description of tendering process, studies related to tendering, studies related to procurement laws or regulations, comparison studies, summary.

Chapter 3 Tendering process in Taiwan: description of the tendering process in Taiwan, statistical data, problems in practice.

Chapter 4 Tendering process in Ukraine: introduction of Ukraine, description of the tendering process in Ukraine, statistical data, problems in practice.

Chapter 5 Comparisons: comparisons and demonstration of a real case study.

Chapter 6 Summary and Recommendation: contributions of comparisons, limitations and suggestions for future work.



CHAPTER 2 LITERATURE REVIEW

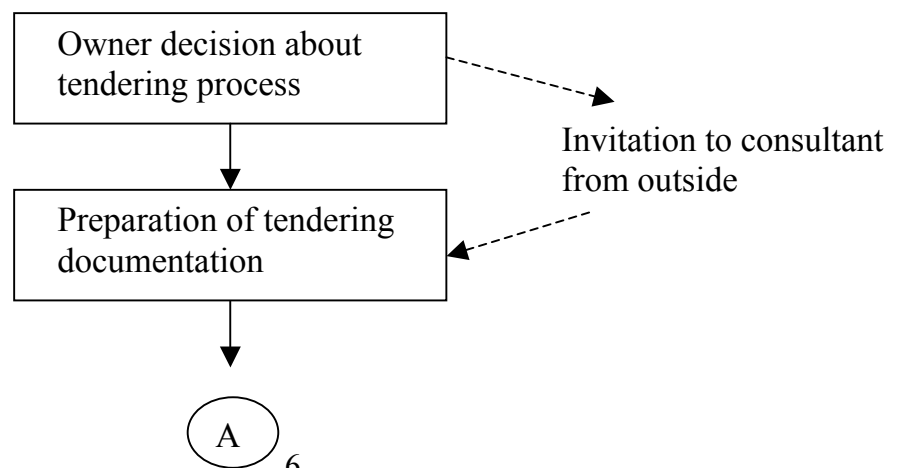
Chapter 2 shows the past studies, which were related to comparisons of tendering systems of construction work between Taiwan and Ukraine, are as follows:

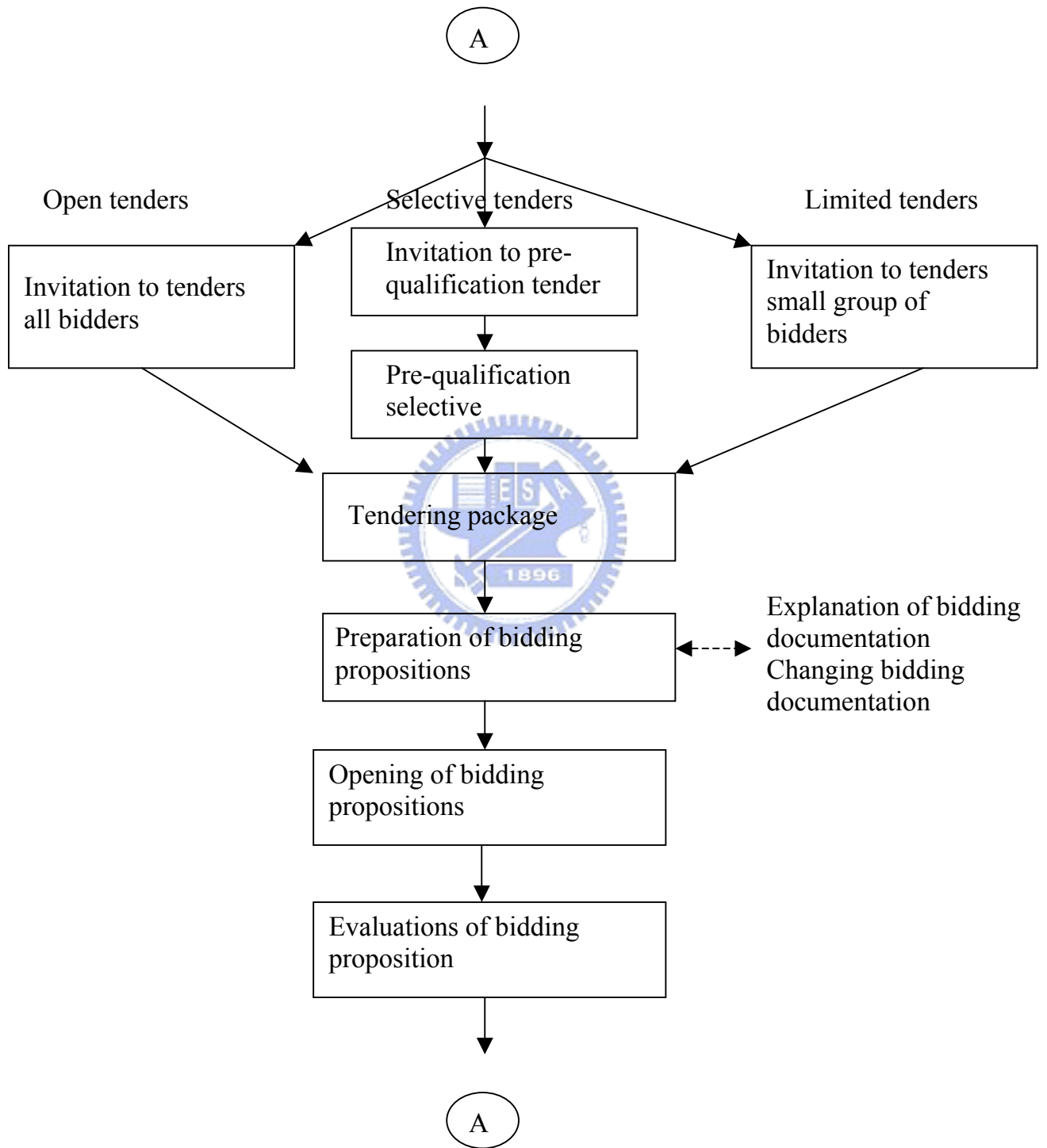
- General description of tendering process – steps of tendering process, tendering methods, tendering package and contract documents, requirement for bidders, bid bonds;
- Studies related to tendering – pre-qualification and bid awarding methods;
- Studies related to procurement law and regulations;
- Comparison studies – criteria for awarding a contract, negotiability, and research methods used in past studies, key statements.

2.1 General description of the tendering process

The tender is the competitive form of placing of orders for delivery of goods, granting of services or performance of works on conditions declared in advance in the documentation, in the stipulated terms on principles of competitiveness, justice and efficiency.

The contract goes to the winner of the tender. This is the participant who has submitted the offer, corresponding to documentation requirements, in which the best conditions are offered. Figure 2-1 shows the basic steps of the tendering process from the beginning (owner decision about tendering process) to the end (results of tendering process).





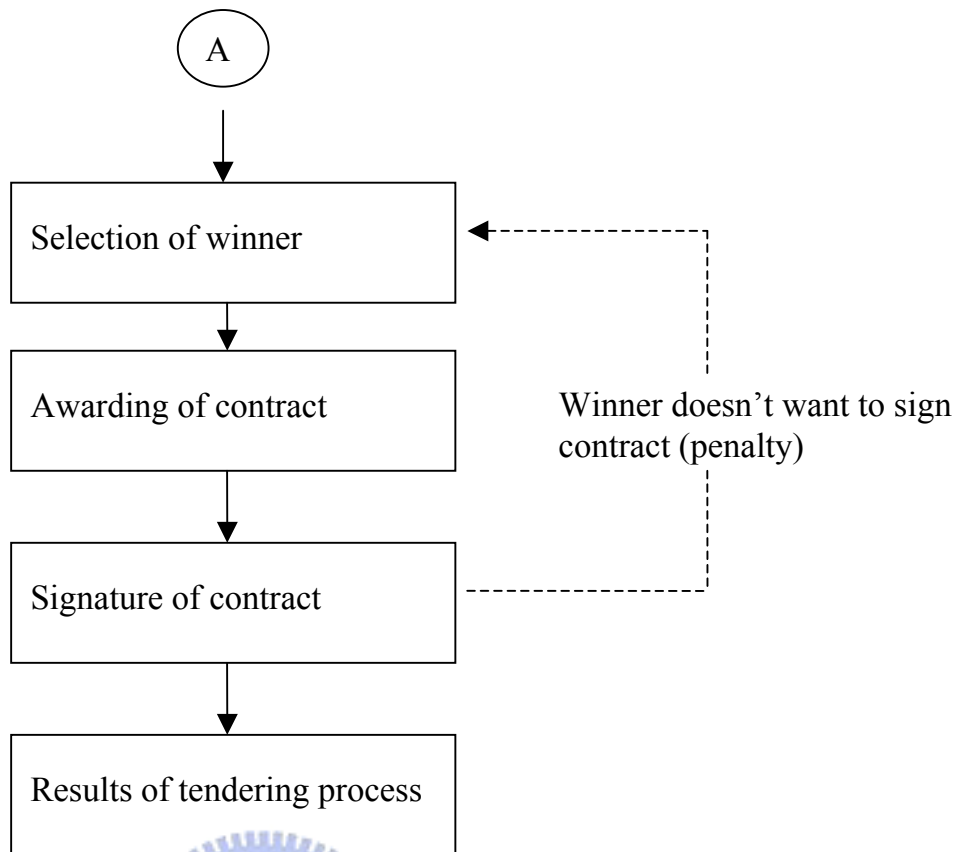


Figure 2-1 Steps of tendering process [<http://basic.tendery.ru>]

The tendering procedures include open tendering method, selective method, and limited method. It is the most popular and most often used method in the world (Table 2-1).

Table 2-1 Types of tendering methods [<http://basic.tendery.ru>]

Types of tendering methods	Description
Open tendering method	The procedures under which a public notice is given to invite all interested suppliers to submit their tenders
Selective tendering method	The procedures under which a public notice is given to invite all interested suppliers to submit their qualification documents for pre-qualification evaluation basing upon specific qualification

	requirements and, after such evaluation, the qualified suppliers are invited to tender
Limited tendering method	The procedures under which, where no public notice is given, two or more suppliers are invited to compete or only one supplier is invited for tendering

2.1.1 Tendering package and contract documents

Tendering package for construction projects consist of two general categories: information related to business/legal matters and information related to technical matters. The business/legal portions of the tendering package are invitation to bid, instruction to bidders, information available to bidders, bid forms, bond and insurance requirements, general conditions, and supplementary conditions of the contract.

The technical portion of the tendering package consists of the plans (drawings) and written specifications that describe the material, workmanship, and methods of construction that are required to build the project. It is practically impossible to describe by words alone how a project is to be built. The drawings are the pictorial directory of how the project is to be built. To further clarify the quality of materials and workmanship, the written specifications are used to supplement the drawings. Where conflicts exist between the drawings and written specifications, it is common practice that the written specifications govern. A clause to this effect is usually presented in the tendering package [Peurifoy and Oberlender, 2002].

This information is necessary for the contractor to prepare an estimate and submit a bid. After the owner has made the decision to accept the bid, the owner and contractor sign the contract agreement, which forms the contract documents. The contract documents consist of the signed agreement, bonds, insurance, drawings, and specifications. Thus, the tendering package becomes the contract documents at the time the contract is signed. Any change orders that are approved during construction also become a part of the contract documents.

The purpose of the contract is to provide a legal document for

construction and completion of the project. The contract includes the contract agreement, bonds, insurance, plans, specifications, and all change orders that are required to complete the construction work.

Designers are responsible for producing the contract documents, which are the plans and specifications from which the contractor can build the project. The prime designer for building type projects is the architect, whereas the prime designer for heavy/industrial type projects is the engineer. The construction contractor is required to perform all work in accordance with the contract documents.

The contractor is responsible for providing all labor, materials, tools, transportation, and supplies required to complete the work in a timely and workmanlike manner and in accordance with the plans, specifications, and all terms of the contract.

2.1.2 Bidding requirements

The information contained of the contract documents is extremely important to the estimation team. Typical information in bidding requirements includes [Peurifoy and Oberlender, 2002]:

- Bid solicitation;
- Instructions to Bidders;
- Information Available to Bidders;
- Bid Forms and Supplements;
- Bidding Addenda.

1. Bid Solicitation

The bid solicitation, sometimes called the invitation to bid, contains the date and time that bids must be submitted. The estimator must establish a plan to complete all work to meet the deadline of the bid date, otherwise the bid will be disqualified. The bid solicitation also gives the names and addresses of the owner and design organization, with instructions on how to obtain the bid documents. Table 2-2 lists typical items in the invitation to bidders.

Table 2-2 Typical contents of an invitation to bid
 [Peurifoy and Oberlender, 2002]

No.	Name of contents
1	Name, location and type of project
2	Name and address of owner and designer
3	Date, time and location for receipt of bids
4	Disqualification criteria for late submission of bid
5	Required amount of bid bond, certified check or cashier's check
6	Procedure for obtaining plans and specifications
7	Clarification of owner's right to reject any and all bids

2. Instructions to Bidders

The instructions to bidders section describe vital information that is required to submit a bid. For example, bidders may be required to attend a pre-bid conference. Another example that may appear in the instructions to bidders is a statement that the contractor must make provisions during execution of the contract documents to allow the owner to take advantage of the owner's tax exempt status for materials and equipment purchased for the project. Thus, no taxes would be applied during preparation of the estimate. Early in the estimating process the estimating team must become thoroughly aware of the requirements that are placed on preparing the bid in accordance with the contract documents. Table 2-3 lists typical information in the instructions to bidders.

Table 2-3 Typical contents of an invitation to bid
 [Peurifoy and Oberlender, 2002]

No.	Name of contents
1	Instructions on submission, receipt, opening and withdrawal of bids
2	Qualifications of bidders and subcontractors
3	Requirement of bidders to use bid forms in the contract documents
4	Instructions to use both words and figures in submitting cost amounts

5	Statement that all addenda will become a part of the contract
6	Request to state the number of calendar weeks for completing work
7	Requirement of contractors to notify design of any discrepancies
8	Criteria for extra work that may be specified by the owner or designer
9	Request for unit cost of labor and equipment for extra work
10	Requirement of contractor to abide by local ordinances and regulation

3. Information Available to Bidders

The information available to bidders section may include such items as referencing a subsurface exploration report that has been prepared for the project, but is not shown in the contract documents. The information available to bidders may include information about the project from a material testing laboratory. This section may also include reference to standards, general conditions of the contract, which apply to the project but are not included in the contract documents.

4. Bid Forms

The bid form defines the format that is required for submission of the bid. The format of the bid form impacts the assembly and summary of cost in the final estimate. The owner may request the bid as a single lump sum; unit prices based on predefined pay quantities in the bid documents, or a combination of both lump and unit prices. For construction projects, the work may be priced by several methods: lump sum, unit price, cost plus a fixed fee or cost plus a percentage of construction, cost plus a guaranteed maximum price, or a combination of these pricing methods. The method selected depends on the distribution of risk between the owner and contractors.

Bid form for lump-sum contracts

For projects where a complete set of plans and specifications have been prepared prior to construction and the quantity of work is well defined, the estimate is normally prepared for the purpose of submitting a lump-sum bid on the project. Building type projects are usually bid on a lump-sum basis. When the cost of a project is estimated on this basis, only one final total-cost figure is

quoted. Unless there are changes in the plans or specifications, this figure represents the amount that the owner will pay to the contractor for the completed project. Since the contractor provides the lump-sum price before construction starts, he or she is exposed to uncertainties during construction and thereby assumes risk for the project.

It is common practice for projects to have one or more "alternates" attached to the bid documents of lump-sum contracts. The alternate may be to add or deduct a work item from the base lump-sum bid. This allows the owner the option of selecting the number of alternates so that the total bid cost will be within the amount specified by the owner's budget.

A lump-sum estimate must include the cost of all materials, labor, equipment, overhead, taxes, bonds, insurance, and profit. It is desirable to estimate the costs of materials, labor, and equipment separately for each operation; to obtain a subtotal of these costs for the entire project; and then to estimate the cost of overhead, taxes, bonds, insurance, and profit.

For a building type project the bid form consists of a page in the specifications for bidders to record the total bid amount. If numerous alternates are in the bid documents, the base bid is recorded and the bid price for alternates is listed separately.

Bid forms for unit-price contracts

Most heavy engineering construction projects are bid on a unit-price basis. Such projects include pavements, curbs and gutters, earthwork, various kinds of pipeline, clearing and grubbing land, etc. These projects are bid unit-price because the precise quantities of material may not be known in advance of construction. For example, the actual quantity of material to be excavated, hauled, and compacted in the fill area may vary substantially from the calculated quantity in the bid forms due to unknown settlement of the soil and other factors. The contractor bids the work on a unit-price basis and is paid based on the actual quantity of work. The final cost is determined by multiplying the bid price per unit by the actual quantity of work completed by the contractor. Therefore, for a unit-price contract the cost that the owner will pay to the contractor is not

determined until the project has been completed. Thus, the owner assumes the risk for uncertainty in the actual quantity of work. The cost per unit, submitted in a bid, includes the furnishing of materials, labor, equipment, supervision, insurance, taxes, profit and bonds, as required for completely installing a unit. Typical designated include square yards, cubic yards, linear feet, tons, acres, etc. A separate estimate should be prepared for each type or size of unit.

5. Bidding Addenda

An addendum is a change in the contract documents during the bidding process, before award of the contract. An addendum is sometimes called a bulletin. Typically addenda are issued to correct errors in the contract documents or clarify an issue, or it may concern addition to the work at the request of the owner. The estimate and resulting bid must include all costs required to complete the work in accordance with the drawings and specifications, together with all of the addenda. Therefore, the estimating team must be certain that the costs of all addenda are included in the estimate.

2.1.3 Bonds

Most owners require prospective bidders to submit bonds as qualifications for submitting a bid for a project. The bonding company that issues the bond requires the contractor to show financial stability and previous experience in performing the type of work that is required to build the project. In addition, it is common practice for the owner to require all prospective bidders to be pre-qualified before submitting a bid. The pre-qualification process usually involves a review of the prospective contractor's financial and safety records and an evaluation of performance on previous projects.

The contractor secures bonds from a bonding company on behalf of the owner as financial and legal protection for the owner. Three types of bonds are commonly required in construction contracts: bid bond, performance bond, and payment bond. The bid bond ensures the owner that the contractor will sign the contract for the bid amount. The performance bond ensures the owner that the contractor will perform all work in accordance with the contract documents. The

payment bond ensures the owner that all material and labor will be paid. If the contractor defaults, the bonding company agrees to fulfill the contract agreement [Peurifoy and Oberlender, 2002].

Bid Bond

It is common practice to require each bidder on a project to furnish with the bid a bid bond, a cashier's check, or a certified check in the amount equal to 5 to 20 percent of the amount of the bid. In the event that the contract to construct the project is tendered to a bidder and the bidder refuses or fails to sign the contract, the owner may retain the bond or check as liquidated damages.

For some projects, cashier's checks are specified instead of bid bonds. The bidder purchases these checks, which are issued to the owner of the project by a bank. They can be cashed easily, whereas it is necessary for the owner to secure payment on a bid bond through the surety, and the surety may challenge the payment. The use of cashier's checks requires bidders to tie up considerable sums of money for periods that may vary from a few days to several weeks in some instances.

Performance Bond

All government agencies and many private owners require a contractor to furnish a performance bond to last for the period of construction of a project. This is an acceptable surety to ensure the owner that the contractor that furnishes the bond will perform the work in accordance with the contract documents. In the event a contractor fails to complete a project, it is the responsibility of the surety to secure completion. Although the penalty under a performance bond is specified as 25, 50, or 100 percent of the amount of the contract, the cost of the bond usually is based on the amount of the contract and duration of the project.

Material and Labor Payment Bond

The contractor secures the material and labor payment bond from a surety company. The bond is issued to ensure the owner that all wages and bills for materials will be paid upon completion of the project. In the event the contractor fails to pay labor and material costs, the surety company assumes that responsibility. Typically, the performance bond and the material and labor

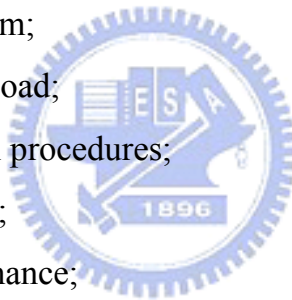
payment bond are secured by the contractor as a package.

2.2 Studies related to tendering

2.2.1 Pre-qualification

Owners can provide specific qualifications for participants to be sure of the qualification level of the contractor. Pre-qualification is very important for owners [Elton, et al., 1995]. The following are the main evaluation factors that owners use to do pre-qualification of contractors:

- Financial stability;
- Experience;
- Reputation;
- Part performance;
- Capacity of firm;
- Current work load;
- Project control procedures;
- Staff available;
- Safety performance;
- Quality performance;
- Manpower resources;
- Company organization;
- Failure to complete a previous project;
- Equipment resources;
- Bonding capacity and etc.



There are many sub-categories that can be used in evaluating a given factor [Russell, et al., 1990]. Table 2-4 shows the main composite decision factors that are used for evaluation of participants and their weight.

Table 2-4 Composite Decision Factors for Private
Owners/Construction Management [Russell and Skibniewski, 1990]

Index	Composite decision factor	Weight
1	Financial and experience	0.14
2	Failed performance	0.13
3	Performance	0.13
4	Capacity of assuming new project	0.12
5	Management	0.11
6	Bonding	0.11
7	Location	0.09
8	Resources	0.09
9	Safety	0.08

Financial and experience is a combination of the financial record of the contractor and their experience record. An experienced contractor with sufficient capital is a desirable participant in the project bidding process.

Failed performance refers to the contractor's not fulfilling the contract obligation on a project. To use past performance of a contractor as an indicator of future performance, a previous failure will need to be scrutinized prior to a contract award, as circumstances arise where a failure is not the fault of the contractor.

Performance refers to such qualities as timely completion of past projects, and quality of references, of safety exhibited during construction, and of work performance.

Capacity for assuming new projects refers to the contractor's resource base and the ability to effectively perform the proposed project. If a contractor has exceeded the resource base, the ability to perform the project successfully is severely impaired.

The **management** factor focuses on evaluating the company and project management, including adequacy of staffing, and the amount and adequacy of control over projects.

A company's ability to secure adequate bonding is reflected in the **bonding** factor.

The **location** of the project refers to the contractor's experience in the geographic location of the owner's project, as well as the proximity of the contractor's main office to the job site.

The **resources** factor refers to the magnitude of the contractor's resources. Manpower, material, capital, equipment and amount of work performed with the contractor's own resources are items related to this factor.

Safety relates to the safety record of the contractor as well as related items to safety such as the substance abuse policy [Russell and Skibniewski, 1988].

For the pre-qualification stage, we can separate all criteria into three groups or modules, as seen in Figure 2-2 [Thomas and Skitmore, 1995].

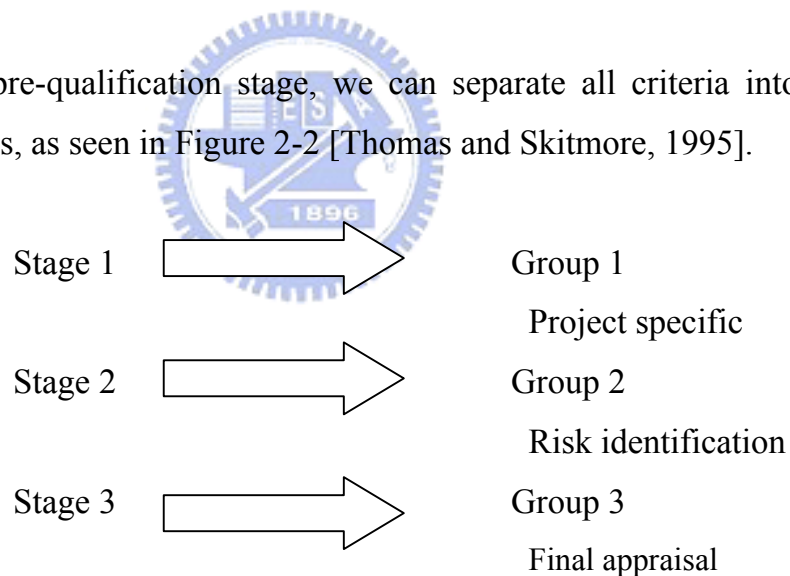


Figure 2-2 The three modules

The project specific module evaluates the competence of contractors in carrying out the project according to the project details as defined by client or consultant. This determines whether they can be qualified to enter the next stage or not.

The risk identification module examines the recent status and movement of contractors and helps to eliminate the possibility of any downside

risks being passed onto the client after awarding the contract. Potentially risky contractors are screened off by the system in this stage.

The final appraisal module then evaluates the qualified contractors through a series of models and a score is assigned to each contractor to represent its relative merits. Based on these scores, each contractor is ranked in descending order and a short list of tenderers for the project is produced [Palaneeswaran and Kumaraswamy, 2001]

2.2.2 Bid-awarding methods

From the past we can learn some bid methods:

1. The Mathematical method of evaluating both cost and time bids is based on Utility Theory, which provides a uniform scale to compare the satisfaction provided by various criteria. Utility functions quantify the preferences of a decision maker by assigning a numerical index to varying levels of satisfaction of a criterion [Lambropoulos, 2007].

This method implements predefined utility curves, which will allow the determination of optimal bids providing maximum utility to the client, and takes into consideration:

- The utility of the financial bid for the client;
- The utility of the time offer for project completion.

2. A provisional quantitative methodology for evaluating construction project bids was developed in 1998 and used for evaluation of open and invited bids in the construction market [Jin and Wei, 2003]. The bid evaluation is made based on six important aspects or criteria:

- 1) Degree of response to the bid document;
- 2) Construction organization design;
- 3) Firm's honors and competence;
- 4) Bid prices and the amounts used of three materials (steel, cement and lumber)
- 5) Range for reducing cost
- 6) Comprehensive evaluation and examination.

All the commissioners based on the above criteria should evaluate all the bidders [Lai, et al., 1998].

2.3 Studies related to procurement laws or regulations

Different countries have different procurement laws, but most of them use the following methods for awarding a contract:

1. The most advantageous tendering method (MAT);
2. Lowest bid tendering (LBT);
3. Or both.

Taiwanese use the lowest bid tendering method, and since 1999 they have added a new method: the most advantageous tendering method (Table 2-5). Taiwanese analyzed these methods and did some comparisons using data collected from questionnaires.

Table 2-5 Comparisons of the methods of awarding Government Procurement Law contracts in Taiwan [Tzeng, et al., 2006]

	LBT		
	Procurement with set ceiling price	Procurement without set ceiling price	
Applicable conditions	No restrictions Simple cases are preferred	Specific or complex case in which ceiling price is hard to set	Heterogeneous construction works, properties or services where awarding a contract under LBT would be inappropriate Generally adopted for complex cases
Tender awarding conditions	The tender with legitimate	The tenderer whose tender not only meets	In principle, no ceiling price shall

	<p>documentation and the lowest price within the ceiling price is awarded</p> <p>If the ceiling price is exceeded, then the value of the winning award shall not exceed the ceiling price by more than 8%. The decision must be submitted to supervisors for approval when the procurement quantity exceeds the supervision threshold and exceeds the ceiling price by 4%</p>	<p>the requirements set forth in the tender documentation with a reasonable price, but also is the LBT method and within budget, shall be the winning tenderer</p> <p>Otherwise the evaluation committee shall set a recommended amount and award the contract within that amount</p>	<p>be set</p> <p>If ceiling price is set up, negotiation measures are adopted when the tender price exceeds the ceiling price and a deduction is to be offered</p> <p>MAT shall be evaluated in accordance with the review standard and the conditions of the tenderer in terms of technology, quality, function and commercial terms or the price</p> <p>Decisions shall be made by the head of the entity or by agreement of the majority of the evaluation committee</p>
--	---	---	---

After this comparison, the following observations are found:

1. The number of public work projects using MAT has steadily increased.

2. The survey results indicate that MAT is more effective than LBT in terms of time, quality, satisfaction, on-site safety and disputes on contract fulfillment.

3. The overall effectiveness of the MAT method has gained positive recognition among the participant groups of public work

2.4 Comparison studies

The most important characteristics that were used to do this comparison between countries (lesson from past experience) include:

1. The characteristics of the traditional tendering systems are following:
 - Criteria for awarding a contract;
 - Negotiability.
2. Size of construction industry.

2.4.1 Tendering systems

The characteristics of the traditional tendering systems are shown in Table 2-6. The most important criteria for EU members awarded contracts are:

- Low bidding price, 28% of all awards;
- Most economically advantageous tender, 72% of all awards.

In USA and Japan:

- Lower bidding price.

Table 2-6 Criteria for awarding a contract [Ohno and Harada, 2006]

Countries	Member of WTO	Regulation	Methods of awarding
USA	Yes	Federal Acquisition Regulation	LBP, MAT
United Kingdom	Yes	Public Works Contract Regulation	LBP, MAT
France	Yes	Code of Public	MAT

		Contractors	
Germany	Yes	Procurement Regulation for Public Works	MAT
Sweden	Yes	Public Procurement Act	LBP, MAT
Japan	Yes	Public Accounting Law	LBP
Taiwan	Yes	Government Procurement Act	LBP, MAT
Ukraine	Yes	Temporary Government Procurement of Goods, Works and Services	MAT

It is necessary to adopt tendering systems that intensify competition and promote the accounting system for higher cost. Sometimes the owner will negotiate the work for a project with a construction firm prior to completion of a set of plans and specifications. This is usually done when the owner wants to start construction at the earliest possible date to benefit from an early completion and use of the project. A representative of the owner works with the contractor to evaluate alternatives to obtain a project configuration that meets the needs of the owner, yet with a cost within the owner's allowable budget. Table 2-7 displays that different countries governments can have different influences in the tendering process.

Table 2-7 Negotiability [Ohno and Harada, 2006]

USA	Negotiations with a limited number of applicants
United Kingdom	The government negotiates with multiple bidders
France	The government can demand that bidders clarify or modify the elements of documents submitted by them, but cannot negotiate with them on the details
Germany	The government can negotiate with bidders for the purpose of

	confirming the reasonability of the price and work
Sweden	The government negotiates with bidders only to clarify their questions concerning bids
Japan	The government does not negotiate with bidders

2.4.2 Construction systems

Japan ranked is № 1 in size of construction industry and number of people working in the construction industry. Japan's economic structure, however, is more dependent on the construction industry and public works than those of the United States and Europeans countries.

Japan is higher than Sweden in labor productivity of people working in the construction industry, and a little lower than EU members and the USA [Ohno and Harada, 2006].

2.4.3 Research Methods used in past studies

In the past several comparisons of tendering systems between different countries were done: a comparison of tendering and contracting systems for public work between Japan, the United States and EU countries [Ohno and Harada, 2006], competitive contracting for public services: a comparison of policies and implementation in Denmark and Sweden [Bryntse and Greve, 2002] and others. The main research methodology used in these past studies consisted of four main steps:

- The reasons for choosing these counties for comparison;
- Collect data and create databases to describe tendering systems in these countries;
- Understand and analyze databases, understand why countries has some things different or in common in their tendering systems;
- Comparison of databases, comparisons of some parts of tendering systems, show and explain what is different or in common in their tendering systems.

2.5 Summary

Key summarized statements are the following:

- No one has done a comparison of tendering systems of construction work between Taiwan and Ukraine.
- USA, EU and Japan have reformed these systems as implemented in the relevant countries and all of them are promoting the use of technical proposals made by the private sector and the establishment of the tendering and contracting systems by different countries.
- Most related research has focused on the comparison of tendering systems, including the criteria for awarding a contract and negotiability.



CHAPTER 3 TENDERING SYSTEM IN TAIWAN

Chapter 3 includes general description of the tendering system in Taiwan and, describes and explains the statistical databases – the number of construction companies, basic indicators for construction, government capital investment, the number of award contractors.

3.1 Description of the tendering system in Taiwan

The Taiwanese tendering system is based on the Government Procurement Act, which was promulgated by presidential decree on May 27, 1998.

This act was amended and promulgated by presidential decree on January 10, 2001 for Article 7, amended and promulgated by presidential decree on February 6, 2002 for Articles 6, 11, 13, 20, 22, 24, 25, 28, 30, 34, 35, 37, 40, 48, 50, 66, 69, 70, 74 to 76, 78, 83, 85, 85.1 to 85.4, 86 to 88, 93.1, 95, 97, 98, 101 to 103, 114 and the title of Chapter 6. This Act consists of 8 Chapters and 114 Articles (Table 3-1).

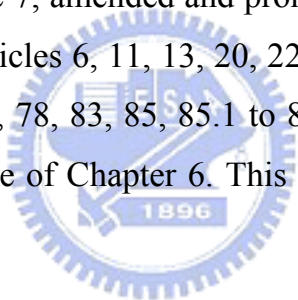


Table 3-1 Taiwanese Government Procurement Act

No Chapter	Name of Chapter	Articles
I	General Principles	1 – 17
II	Invitation to Tender	18 – 44
III	Awards of Contracts	45 – 62
IV	Administration of Contract Performance	63 – 70
V	Inspection and Acceptance	71 – 73
VI	Dispute Settlement	73 – 85
VII	Penal Provisions	87 – 92
VIII	Supplementary Provisions	93 – 114

3.2 Statistical databases

Based on Table 3-2, in 1996 Taiwan had 48,236 construction companies, from which 27,409 were private companies, 20,786 were private individual ownership or partnership companies, 17 were private other companies, 2 were public companies and 22 were public non-companies and other. In 2001 the number of construction companies increased to 55,666, from which 26,208 were private companies, 29,423 were private individual ownership or partnership companies, 19 were private other companies, 3 were public companies and 16 were public non-companies and other.

Comparing 1999 and 2001, the number of private individual ownership or partnership companies increased by 8,637 companies, private companies decreased by 1,201 companies, private other companies increased by 2 companies and public companies by 1 company, public non-company and other decreased by 4 companies.

Table 3-2 Number of enterprises in Taiwan end of 1996 and 2001

	Total		Construction		Percentage of construction enterprises, %	
	1996	2001	1996	2001	1996	2001
Years	1996	2001	1996	2001	1996	2001
All enterprises in Taiwan	866,573	935,316	48,236	55,666	100	100
Private company	331,776	333,672	27,409	26,208	56.823	47.081
Private individual ownership or partnership	529,909	596,767	20,786	29,423	43.092	52.856

Private other	4,139	4,445	17	19	0.035	0.034
Public company	97	84	2	3	0.004	0.005
Public non-company and other	652	348	22	16	0.046	0.029

Data Source: National Statistics, Republic of China, www.stat.gov.tw, 2008

Figure 3-1 shows that in Taiwan in 2001 private companies consisted of 47.08% and private individual ownership or partnership companies consisted of 52.85% of all construction companies. Private other companies, public companies public non-companies and other consisted of only 0.07% of all Taiwanese construction companies.

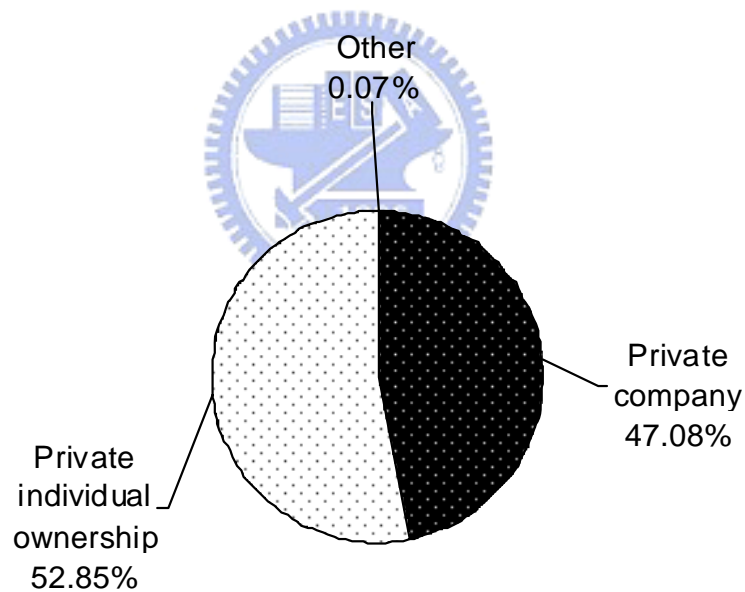


Figure 3-1 Percentage of construction enterprises end of 2001

Table 3-3 shows basic indicators for construction branch in Taiwan, which is based on the period from 1991 until 2001 and included number of construction companies, number of layers, fixed construction assets, profit rate and annual revenue.

Table 3-3 Basic indicators for construction

Years	Number of construction company	Number of layers	Fixed construction assets, millions NTD	Profit rate, %	Annual revenue, millions NTD
1991	25,084	453,952	294,655	7.08	593,867
1996	48,236	537,446	576,740	7.19	978,115
2001	55,666	456,049	594,122	2.91	883,108

Data Source: National Statistics, Republic of China, www.stat.gov.tw, 2008

The number of layers in 1996 was 537,446; it is higher compared to 1991, which were 453,953 people, who worked in construction sphere. But in 2001 the number of layers decreased to 456,049 (Figure 3-2).

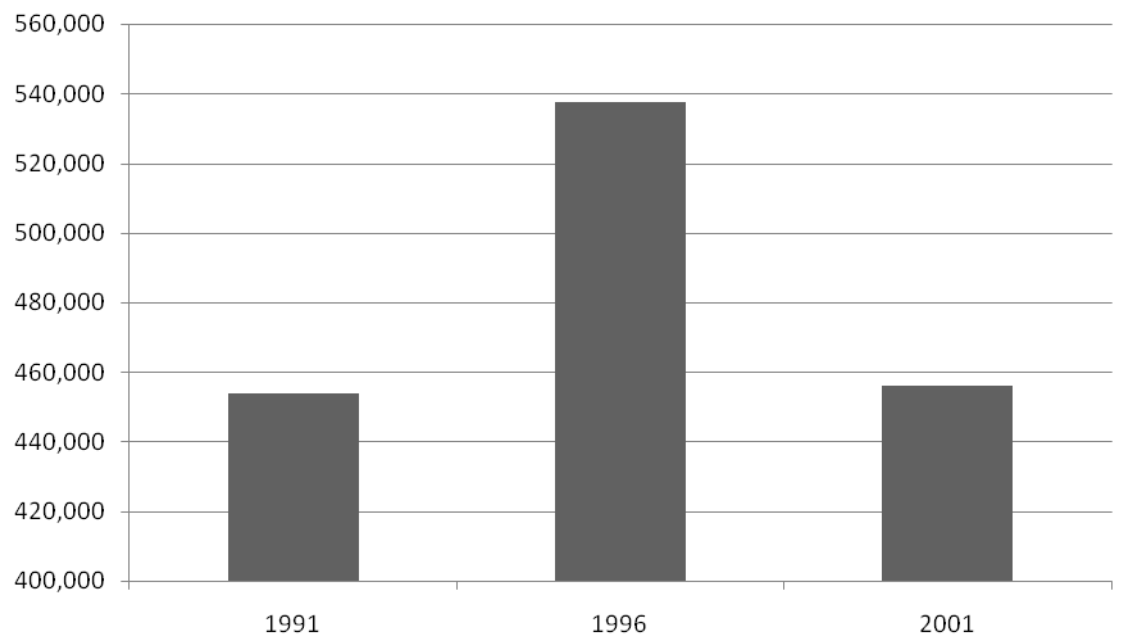


Figure 3-2 The number of layers in construction in period 1991-2001

Fixed construction assets in construction area in Taiwan from 1996 to 2001 increased in 1.95 times and consisted of 576,140 million NTD, compare to 1991, which was 294,655 million NTD. In 2001 fixed construction assets increased to 594,122 million NTD (Figure 3-3).

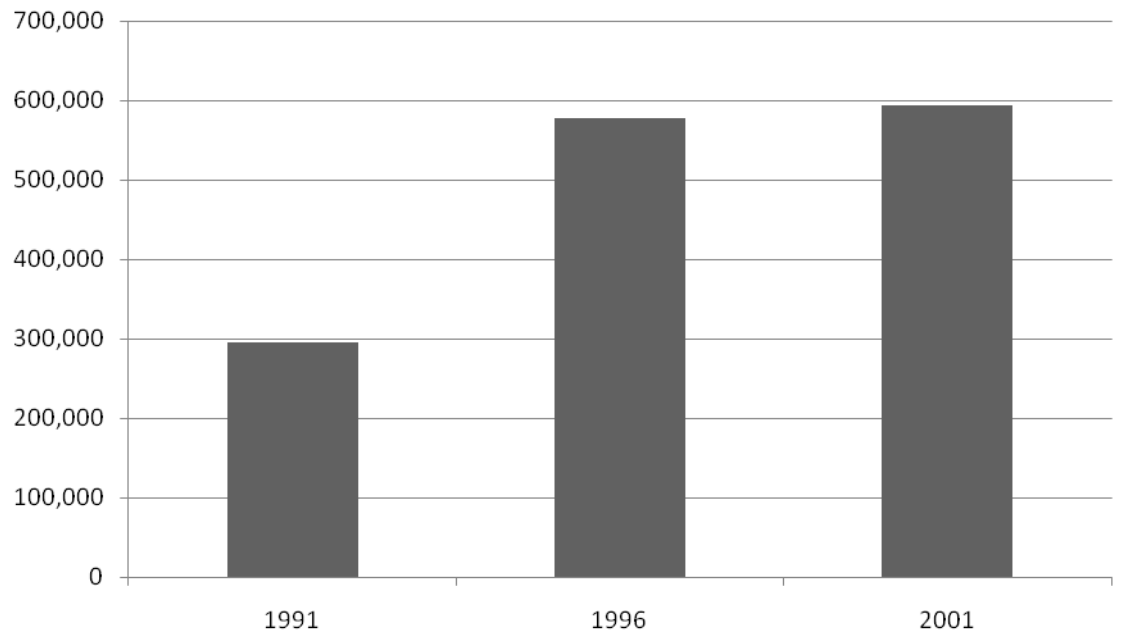


Figure 3-3 Fixed construction assets, millions NTD

The number of construction companies (Figure 3-4) was extremely increased from 1991 (25,084) to 1996 (48,236). And this number still increased in 2001 to 55,666 companies.

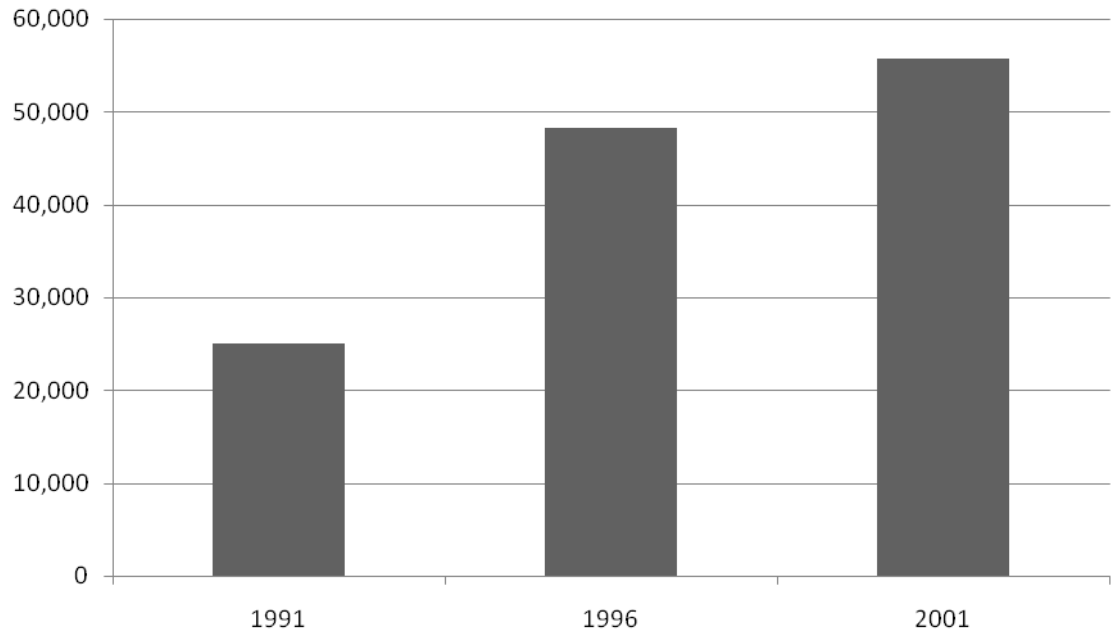


Figure 3-4 The number of construction companies

The amount of annual revenue (Figure 3-5) in 1996 was the higher 978,115 million NTD, which is more than 1.64 times, compared to 1991 593,867 million NTD. But in 2001 the quantity of annual revenue slowly decreased to 883,108 million NTD.

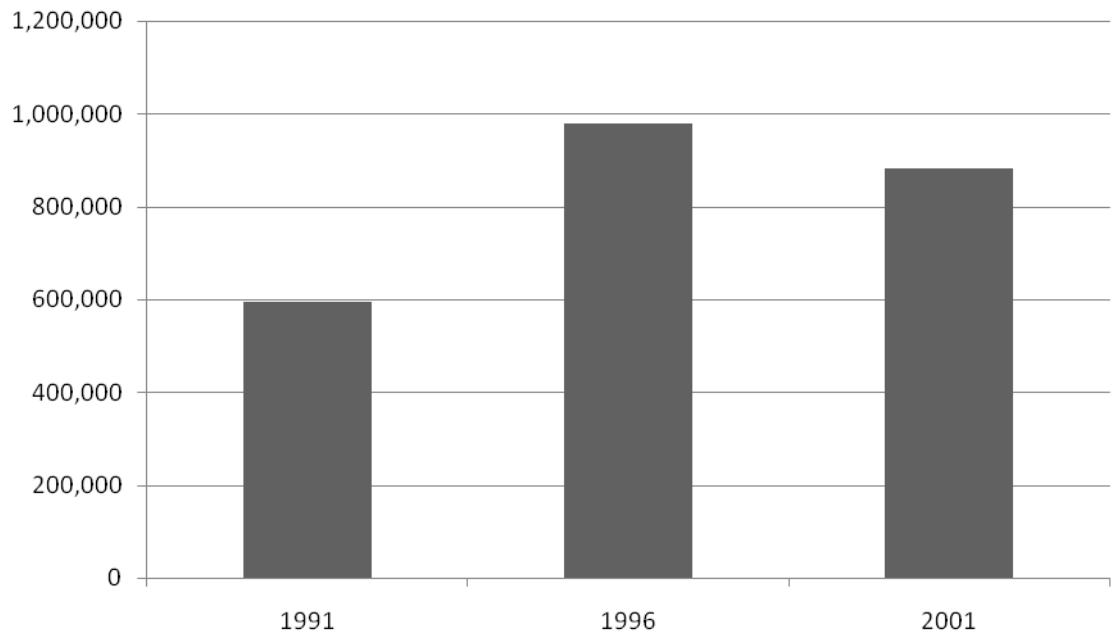


Figure 3-5 Annual revenue, millions NTD

Table 3-4 reveals government capital investment into construction in the period of 1999-2004. Based on this, the government capital investment from 1999 to 2001 increased by 2.13 times and consisted of 375,832 million NTD. But in 2002 it decreased to 328,516 million NTD. In 2003 government investment into construction was higher. It was 409,097, and in 2004 investment was decreased to 317,930 million NTD.

Table 3-4 Government capital investments into construction 1999 – 2004

Year	NTD, millions
1999	176,037
2000	280,151
2001	375,832
2002	328,516
2003	409,097
2004	317,930

Data source: Public Construction Commission, 2008

Figure 3-6 shows that in the period 1999-2001 the amount of investment into construction increased extremely, by 2.13 times. In 2002 investment decreased by 12.59%, compared to 2001. In 2003 the quantity of government capital investment into construction was the highest in the period of 1999-2004. In 2004, however, investment decreased by 22.28% from the previous year.

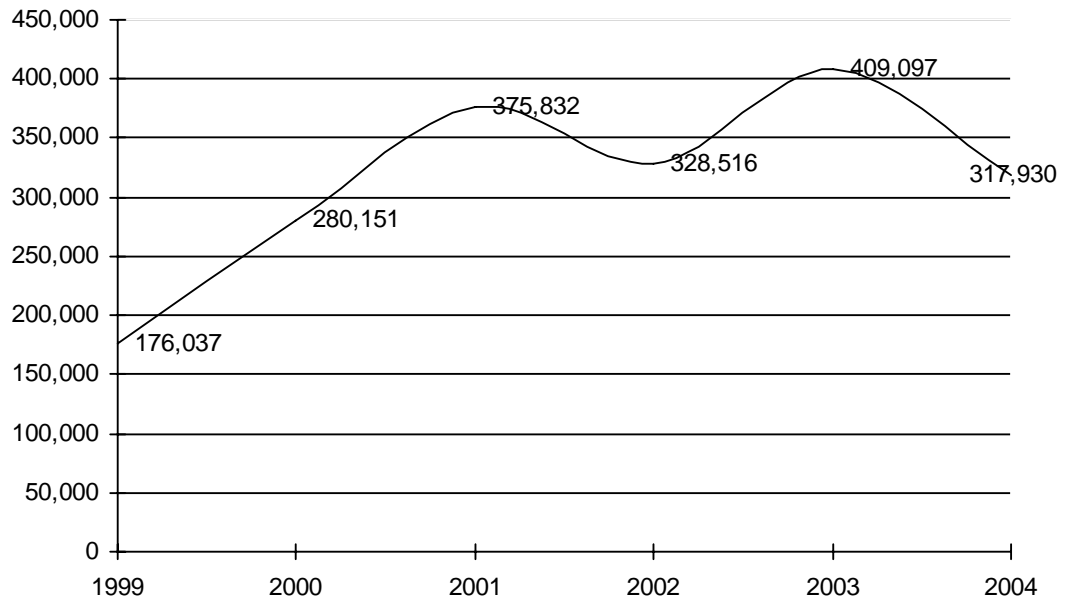


Figure 3-6 Government capital investments into construction

From Table 3-5 the number of award contractors increased extremely. From 1999 (11,850) until 2000 (37,076) it increased by 3.12 times. The higher the number of award contractors was in 2001 and consisted of 37,917 awards. The number of awards contractors slowly decreased each year from 37,917 in 2001 to 29,431 in 2004.

Table 3-5 Number of award contractors

Years	Number of award contractors	Opening Tendering	Selective Tendering	Limited Tendering
1999	11,850	95.80%	0.55%	3.65%
2000	37,076	88.75%	2.78%	8.48%
2001	37,917	93.29%	0.48%	6.23%
2002	35,980	92.10%	1.19%	6.72%
2003	31,983	92.63%	3.45%	3.92%
2004	29,431	86.59%	4.00%	9.42%

Data source: Public Construction Commission, 2008

Based on Figure 3-7 the average numbers of award contractors, the most useful tendering method in Taiwan from 1999 to 2004 was open tender, which consisted of 91.53% of all awards. The second most useful tendering method was limited tender (6.40%), and the selective method was used in only 2.07% of all awards.

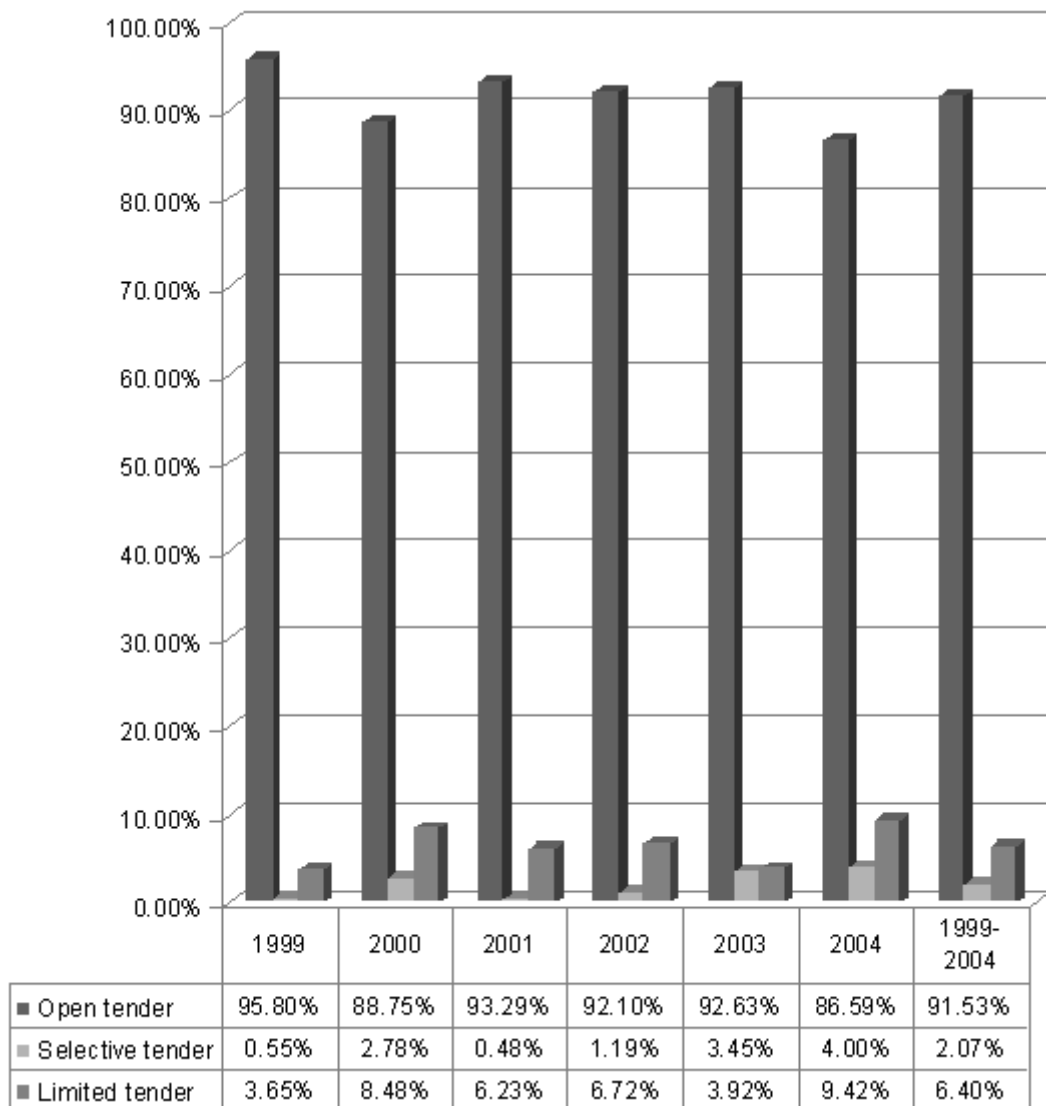


Figure 3-7 Percentages of award contractors

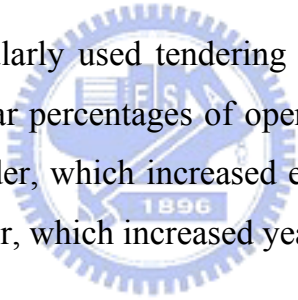
3.3 Summary

The tendering system of Taiwan based on Government procurement Act “Mother Law” and has 36 “Child Laws”, which add and explain tendering structure in details.

The most influence in construction area in Taiwan comes from private companies and private individual ownerships. Now almost all public construction companies lost competitiveness and have been sold to private companies. In Taiwan, competition only happens between private organizations; public organizations do not join in this competition.

The amount of government capital investment into construction was increased from 1999 to 2001 and was the highest in 2003, but then slowly decreased. This means the construction area in Taiwan was very important and had effective power.

And the most popularly used tendering method in Taiwan is the open tender, but from year to year percentages of open tender slowly decreased. The second place is limited tender, which increased extremely in the last years. The third place is selective tender, which increased year to year.



CHAPTER 4 TENDERING SYSTEM IN UKRAINE

Chapter 4 includes introduction of Ukraine, general description of tendering system in Ukraine and, describes and explains the statistical databases – the number of construction companies, basic indicators for construction, government capital investment, the number of award contractors.

4.1 Introduction of Ukraine

Ukraine is located in the heart of Eastern Europe and occupies a land area of 603,700 sq km, which makes it the second largest country in Europe after Russia. It neighbors Poland, Slovakia, Hungary, Moldova and Romania to the west, Russia to the east, Belarus to the north and the Black Sea to the south (Figure 4-1). Ukraine proclaimed independence on 24 August 1991, following the dissolution of the Soviet Union. On 1 December 1991, 90.3% of those who voted approved a referendum formalizing independence from the Soviet Union. The Union formally ceased to exist on 25 December 1991, at which time the international community recognized Ukraine's independence officially.

Ukraine is a republic under a mixed semi-parliamentary semi-presidential system with separate legislative, executive, and judicial branches. The system of Ukrainian subdivisions reflects the country's status as a unitary state (as stated in the country's constitution) with unified legal and administrative regimes for each unit.

Ukraine is subdivided into twenty-four oblasts (provinces) and one autonomous republic (avtonomna respublika), Crimea. Additionally, the cities of Kiev, the capital, and Sevastopol, both have a special legal status. The 24 oblasts and Crimea are subdivided into 490 raions (districts), or second-level administrative units. The average area of a Ukrainian raion is 1,200 sq km, the average population of a raion is 52,000 people.



Figure 4-1 Map of Ukraine

Urban areas (cities) can either be subordinated to the state (as in the case of Kiev and Sevastopol), the oblast or raion administrations, depending on their population and socio-economic importance. Lower administrative units include urban-type settlements, which are similar to rural communities, but are more urbanized, including industrial enterprises, educational facilities, and transport connections, and villages.

In total, Ukraine has 457 cities, 176 of them are labeled oblast-class, 279 smaller raion-class cities, and two special legal status cities, 886 urban-type settlements and 28,552 villages follow these.

According to the Constitution, the state language of Ukraine is Ukrainian. Russian, which was the “de facto” official language of the Soviet Union, is widely spoken, especially in eastern and southern Ukraine. According to the 2001 census, 67.5% of the population declared Ukrainian as their native language and 29.6% declared Russian.

4.1.1 Economy of Ukraine

In Soviet times, the economy of Ukraine was the second largest in the Soviet Union, being an important industrial and agricultural component of the country's planned economy. With the collapse of the Soviet system, the country moved from a planned economy to a market economy. The transition process was difficult for the majority of the population, which plunged into poverty. Ukraine's economy contracted severely following the years after the Soviet collapse. Day to day life for the average person living in Ukraine was a struggle. A significant number of citizens in rural Ukraine survived by growing their own food, often working two or more jobs and buying the basic necessities through the barter economy.

In 1991, the government liberalized most prices to combat widespread product shortages, and was successful in overcoming the problem. At the same time, the government continued to subsidize government-owned industries and agriculture by uncovered monetary emission. The loose monetary policies of the early 1990s pushed inflation to hyperinflationary levels. For the year 1993, Ukraine holds the world record for inflation in one calendar year. Those living on fixed incomes suffered the most. Prices stabilized only after the introduction of new currency, the hryvnia, in 1996.

The country was also slow in implementing structural reforms. Following independence, the government formed a legal framework for privatization. However, widespread resistance to reforms within the government

and from a significant part of the population soon stalled the reform efforts. A large number of government-owned enterprises were exempt from the privatization process. In the meantime, by 1999, the output had fallen to less than 40 percent of the 1991 level, but recovered to slightly above the 100 percent mark by the end of 2006.

Ukraine's 2007 GDP (PPP), as calculated by the IMF, is ranked 29th in the world and estimated at \$399.866 billion. Nominal GDP (in U.S. dollars, calculated at market exchange rate) was \$131.2 billion, ranked 41st in the world.

In the early 2000s, the economy showed strong export-based growth of 5 to 10 percent, with industrial production growing more than 10 percent per year. Ukraine produces nearly all types of transportation vehicles and spacecraft. Antonov airplanes and KrAZ trucks are exported to many countries. The majority of Ukrainian exports are marketed to the European Union and CIS.

The World Bank classifies Ukraine as a middle-income state. Significant issues include underdeveloped infrastructure and transportation, corruption and bureaucracy. The Ukrainian stock market recorded 130% growth in 2007, for second highest in the world. According to the CIA, in 2006 the market capitalization of the Ukrainian stock market was \$42.87 billion. Growing sectors of the Ukrainian economy include the IT Outsourcing market, which was expected to grow over 25 percent in 2007.

By December 2007 the average nominal salary in Ukraine reached 1,675 hryvnias per month. Despite remaining lower than in neighboring central European countries, the annual growth of average salary income in real terms is about 20 percent for several years (2001-2006) in a row.

The country imports most energy supplies, especially oil and natural gas, and to a large extent depends on Russia as an energy supplier. While 25 percent of the natural gas in Ukraine comes from internal sources, about 35 percent comes from Russia and the remaining 40 percent from Central Asia through transit routes that Russia controls. At the same time, 85 percent of the Russian gas is delivered to Western Europe through Ukraine.

After 15 years of negotiations, Ukraine was invited to join the World Trade Organization on February 5, 2008. Ukraine ratified the agreements on April 10, 2008, and became a full member on May 16, 2008.

Following eight years of declining GDP, the Ukrainian economy grew at an annualized rate exceeding 7% from 2000 to 2006. Some momentum has been lost; however, as needed economic reforms have not fully progressed. Growth for 2006 was 7.1%, while 2007 growth is expected to be greater than 5%.

4.1.2 Opportunities in the Ukrainian construction sector

The construction sector led the continued surge in economic growth by expanding at a rate of 21.8 percent, followed by light industry at 13.3 percent, utilities at 10.5 percent, and transport at 9.2 percent and wholesale and retail trade at 8.3 percent.

Ukrainian State Statistics Committee has defined five Ukrainian regions (Kyiv, Donetsk, Dnipropetrovsk, Kharkiv and Lviv regions), which attracted half of total state funding for construction works, undertaken in 2003. Those are carried out in the following sectors of the Ukrainian economy:

- Energy - construction of by-passing branches of the Druzhba oil pipeline, Dniester and Tashlyk hydroelectric power storage plants, Annaniev-Izmail gas pipeline and reactors at the Rivne and Khmelnytske nuclear power plants.
- Road construction, repair and maintenance have received financing from the state budget as well.

More than 20 large construction companies and real estate agencies operate in Kyiv, Ukraine's capital and the most developed city in Ukraine. Kyiv averagely accounts for one fourth of total construction works. According to the latest survey undertaken by the Kyiv City Administration, annual capacity of residential construction in Kyiv is 1.3 - 1.4 million m². Volumes of residential construction are growing steadily and include both new construction and regeneration of old buildings, which are to be converted into deluxe accommodation. Kyiv residential real estate prices increased 20% since

beginning of 2003. Industry analysts predict another 10% increase by the end of the year. Prices on real estate are driven by several factors, such as economic growth, demand for luxury real estate and the Ukrainian government's plans to introduce 20% tax on property.

Opportunities might exist for consultancy and construction contractors, specializing in developing 'smart buildings', i.e. those highly automated with own electrical, heating and security systems and companies with an expertise in converting and developing industrial facilities into residential buildings.

Lack of quality and basic hotels in Ukraine provides opportunities for consulting companies and companies operating BOOT schemes.

Construction of several new shopping malls and office centers is underway in Ukraine's capital, including three in the city centre. The latest launched development of the kind is a 50,000 square-meter shopping and entertainment centre, which is located in the centre of Kyiv. Another 35,000 square meter development with parking and cinema is to be started in the city centre. The 100,000 square meter Lybid-Plaza project is underway with participation of Hungarian investors. Construction of underground malls is very popular in the Ukrainian capital. Reconstruction/ upgrading of Ukrainian roads and bridges The Ukrainian State Service on Road Construction UKRAVTODOR, which is working under the auspices of the Ukrainian Ministry of Transport, has finalized a feasibility study for reconstruction and upgrading of 3.9 thousand kilometres of the Ukrainian roads which are to become a part of International transport corridors. The project is scheduled for 50 years and will be carried out in stages. Total value of the project is UAH 50 billion. Roads under priority construction are: Kyiv-Odessa (235 km) - to be fulfilled by the end 2003, Kyiv-Chop and Kyiv-Kharkiv (Dovzhansky).

The Ukrainian Verhovna Rada has recently approved package of legislation, including a Law on Road construction and granting state loan. Following that, the Ukrainian Minister of Transport had a series of meetings with overseas potential investors. This has resulted in joint Ukrainian-Italian

declaration of intent to grant Ukraine Euro 420 million credit for road construction.

Ukrainian companies using local building materials will develop all the above roads, but there will be opportunities for overseas consultancy and some niche materials and equipment.

More than 12 thousand bridges out of 20 thousand bridges in Ukraine need emergency repair. Lack of funds is the major problem faced by the Ukrainian specialized bridge constructing company - JSC 'Mostobud'. Therefore special interest is shown towards reconstruction/ construction of bridges with the help of foreign investors on concession basis.

4.1.3 Trade and foreign investment

Ukraine is rich in natural resources. It has a major ferrous metal industry, producing cast iron, steel, and steel pipe, and its chemical industry produces coke, mineral fertilizers, and sulfuric acid. Manufactured goods include metallurgical equipment, diesel locomotives, and tractors. It also is a major producer of grain and sugar and possesses a broad industrial base, including much of the former USSR's space industry. Although oil reserves are largely exhausted, it has important energy sources, such as coal and natural gas, and large mineral deposits.

Ukraine encourages foreign trade and investment. The parliament has approved a foreign investment law allowing Westerners to purchase businesses and property, to repatriate revenue and profits, and to receive compensation in the event that a future government nationalizes property. However, complex laws and regulations, poor corporate governance, weak enforcement of contract law by courts, and corruption all continue to stymie large-scale foreign direct investment in Ukraine. While there is a functioning and fairly well regulated stock market, the lack of protection for minority shareholder rights severely restricts portfolio investment activities. Total foreign direct investment in Ukraine is approximately \$4.9 billion as of October 2002, which, at \$101 per capita, is still one of the lowest figures in the region.

Most Ukrainian trade is still with countries of the former Soviet Union, principally Russia. An overcrowded world steel market threatens prospects for Ukraine's principal exports of non-agricultural goods such as ferrous metals and other steel products. Although exports of machinery and machine tools are on the rise, it is not clear if the rate of increase is large enough to make up for probable declines in steel exports. Ukraine imports 90% of its oil and most of its natural gas.

For the first half of 2007, total construction in Ukraine was reported at 19.7 billion UAH, up 14.4% relative to the same period a year ago www.ukrstat.gov.ua . 6.2 billion of them in the Ukrainian capital Kiev.

The new mortgage law (passed December 2005) gave to the Ukrainian banks base to provide mortgage placement service at the reasonable rates. This created the highest demand on residential building.

Residential building (mostly apartment buildings) is accompanied with strong growth of nonresidential market. Healthcare facilities, educational building and other institutional construction are mandatory for the new district's development. Store construction is leading by national retail giants like XXI Century (XXIC) and international like Metro Group.

Low interest credits provided by European banks like Deutsche Banc or London Citibank allow finance heavy highway and bridges projects.

Most of the big Ukrainian construction companies, like Kievgorstroy, T.M.M., UKOinvestbud, Poznyakijilstroy ended 2006 with high net profit. Companies in aggregates and construction materials showed the same strong performance. In January - May2007, the Ukrainian branches of Dyckerhoff Zement reported production of 982 thousand ton of cement, 48.23% up compare to the same period a year ago.

There are a lot of plans for the future. For example City of Kiev is planning renovation of the industrial areas that were developed in the first half of the last century on historical suburbs of the City. Today locations of these areas are perfect for commercial building, offices, hotels and luxury residential buildings. This project is attracting attention of many international investors. At

the first stage it is necessary to relocate existing facilities to the new industrial parks out of the City. The depressed for a long time manufacturing building is going to be on demand as the project starts.

4.2 Description of the tendering system in Ukraine

The Ukrainian tendering system is based on the Temporary Government Procurement of Goods, Works and Services, which was promulgated by presidential decree on March 28, 2008. This Act consist of 10 Chapter and 93 Articles (Table 4-1).

Table 4-1 Ukrainian Temporary Government Procurement of Goods, Works and Services

№ Chapter	Name of Chapter	Articles
I	General Principles	1 – 12
II	The General Conditions of Realization of Purchase	13 – 32
III	Procedures of Open Tender and Tender with Limited Participation	33 – 68
IV	Procedure of the Two-Stage Tender	69 – 71
V	Procedure of Reduction	72 – 73
VI	Procedure of Inquiry of Price Offers (Quotation)	74 – 81
VII	Procedure of Purchase with One Participant	82 – 83
VIII	The Contract on Purchase	84
IX	Disputes about Purchase Procedures	85 – 91
X	Responsible for infringements legislations in purchase sphere	92 – 93

4.2 Statistical data

In 2007 the number of construction companies was 81,492, from which there were 35,835 limited liability companies, 25,996 private companies, 3,378 collective companies, 2,376 subsidiary companies, 32,608 stock companies, 3,005 cooperative companies, 2,934 branch and 4,817 other companies (Table 4-2).

Table 4-2 Number of enterprises in Ukraine of July 1, 2007

	Total	Construction	Percentage of construction organization, %
All Organizations in Ukraine	1,161,308	81,492	100
Private company	265,412	25,996	31.9
Collective company	28,521	3,378	4.145
Subsidiary	22,180	2,376	2.916
Stock company	32,608	3,151	3.867
Limited liability company	366,276	35,835	43.974
Cooperative	32,526	3,005	3.687
Branch	55,376	2,934	3.6
Other	358,409	4,817	5.91

Data source: State Statistics Committee of Ukraine, www.ukrstat.gov.ua, 2008

Figure 4-2 shows that the first most important group of construction organizations in Ukraine consists of limited liability companies (43.9%) and private companies (31.9%). Those are two of the most influential organizations in Ukraine. The second group of important construction organizations in Ukraine consists of collective companies (4.2%), subsidiary (2.9%), stock company (3.9%), cooperative (3.7%), branch (3.6%), and other (5.9%).

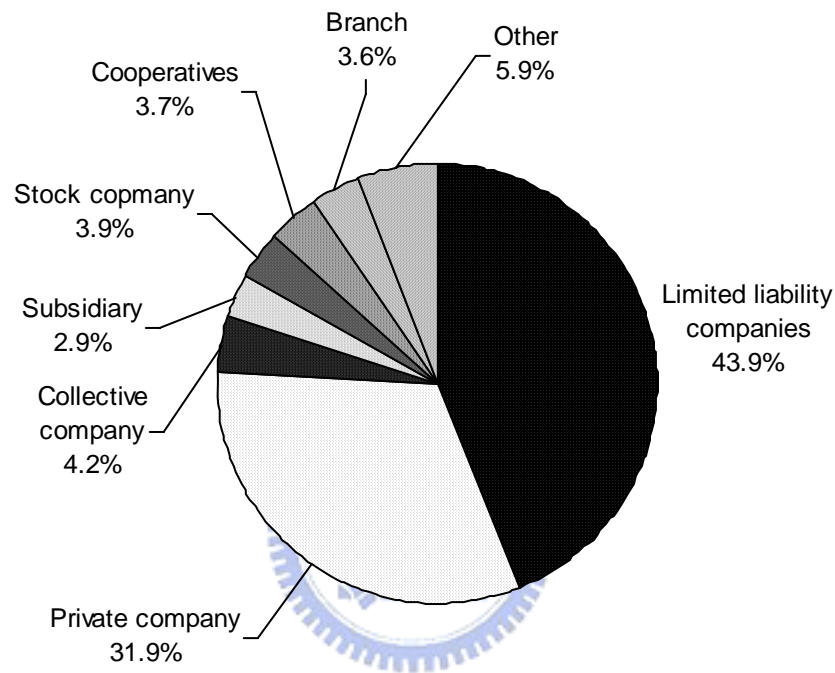


Figure 4-2 Classification of Ukrainian companies

Table 4-3 shows basic indicators for the construction branch in Ukraine, which is based on the period from 2000 until 2006, and includes the number of construction companies, number of layers, fixed construction assets, profit rate, annual revenue, average monthly wages of construction employees, and percentage of construction companies that do not make profit.

Table 4-3 Basic indicators for construction 2000-2006

Years	Average monthly nominal wages of construction employees, NTD	Number of layers, thousands	Percentage of construction companies that do not make profit, percent %	Profit rate, %	Number of construction company	Fixed construction assets, millions NTD	Annual revenue, millions NTD
2000	1,392	697.0	40	1.3	21,716	93,512	79,202
2001	1,898	653.0	37	3.5	23,124	106,924	101,381
2002	2,337	630.5	38	1.2	24,456	113,513	130,177
2003	2,863	633.6	36	2.2	26,856	117,759	188,186
2004	3,638	655.7	34	2.1	29,917	127,633	290,165
2005	4,773	657.9	34	2.2	32,521	156,846	327,152
2006	6,258	667.9	32	3.1	35,875	184,009	469,798

Data source: State Statistics Committee of Ukraine, www.ukrstat.gov.ua, 2008

The quantity of share of loss-making construction enterprises has decreased from 40% in 2000 to 32% in 2006. The number of layers was increased from 2000 to 2006, and it was 667,900 people, but the higher number of layers was 697,000 people in 2002. The average monthly nominal wages of construction employees extremely increased by 4.5 times in the period of 2000-2006 and it was 6,258 NTD. For conversion UAH to NTD use database of National bank of Ukraine (Table 4-4).

Table 4-4 Database of National Bank of Ukraine

Date and Price			
04.01.1997	14.5349	30.12.1997	17.0358
06.01.1998	17.2117	31.12.1998	9.4610
05.01.1999	9.4093	31.12.1999	6.7450
06.01.2000	6.0489	30.12.2000	6.0469
03.01.2001	6.1062	29.12.2001	6.5274
03.01.2002	6.5953	30.12.2002	6.5186
03.01.2003	6.5168	31.12.2003	6.3841
05.01.2004	6.3847	31.12.2004	6.1155
06.01.2005	6.0655	30.12.2005	6.6439
05.01.2006	6.5694	30.12.2006	6.4962
09.01.2007	6.4465	29.12.2007	6.4021

The number of construction companies has increased year-to-year, compare to previous years. In the period from 2000 until 2006, the number of construction companies increased in 1.65 times and it was 35, 875 companies by 2006 (Figure 4-3).

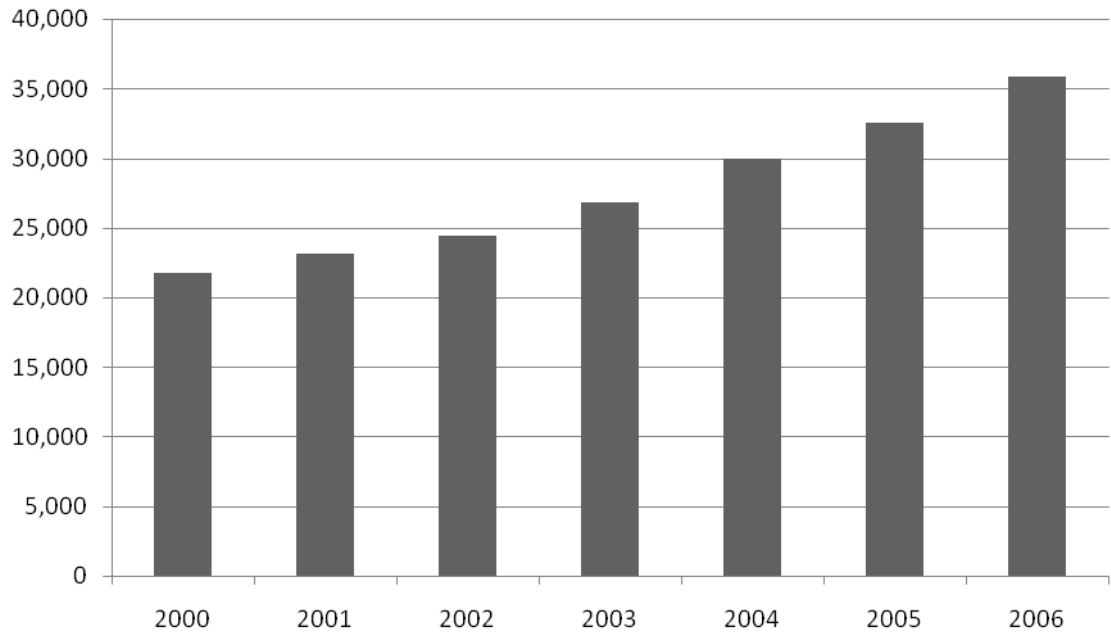


Figure 4-3 The number of construction companies in Ukraine

Extremely increased and fixed construction assets, from 93,512 million NTD in 2000 to 184,009 million NTD in 2006. In total the fixed construction assets increased by 1.96 times in the period from 2000 to 2006 (Figure 4-4).

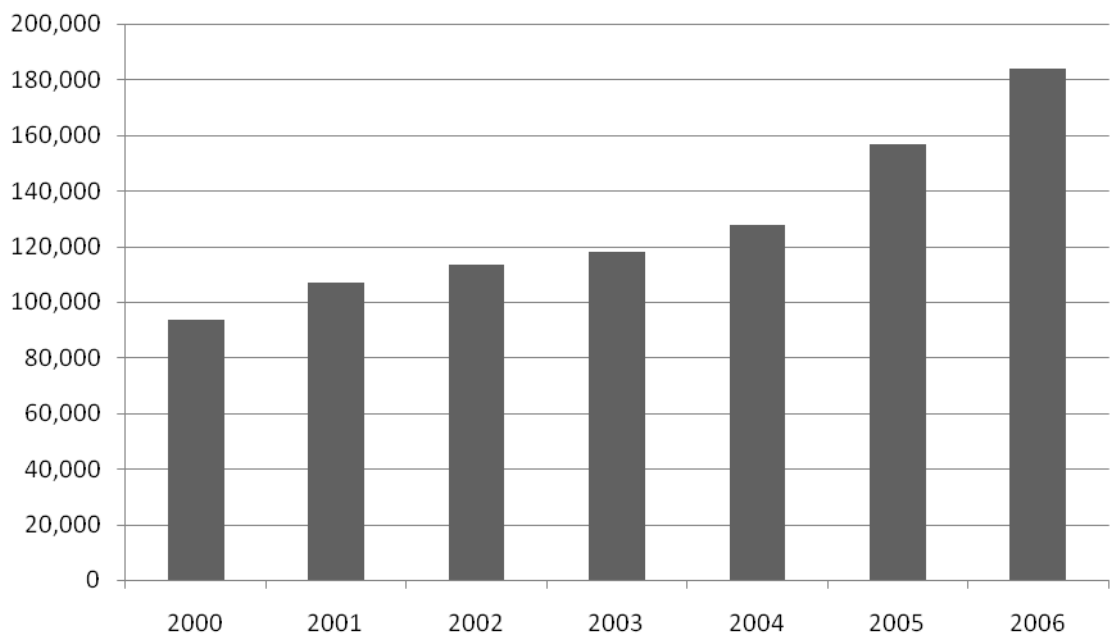


Figure 4-4 Fixed construction assets, millions NTD

Figure 4-5 shows that the profit rate in 2001 extremely increased by 2.7 times (3.5%), compare to 2000 (1.3%). However, in 2002 profit rate extremely decreased to 1.2%. In period from 2003 to 2006 profit rate of contraction companies in Ukraine slowly increased, from 2.2% in 2003 to 3.1% in 2006. However, the biggest profit rate in construction companies in Ukraine was in the years 2001 and 2006, while the lowest was in 2002.

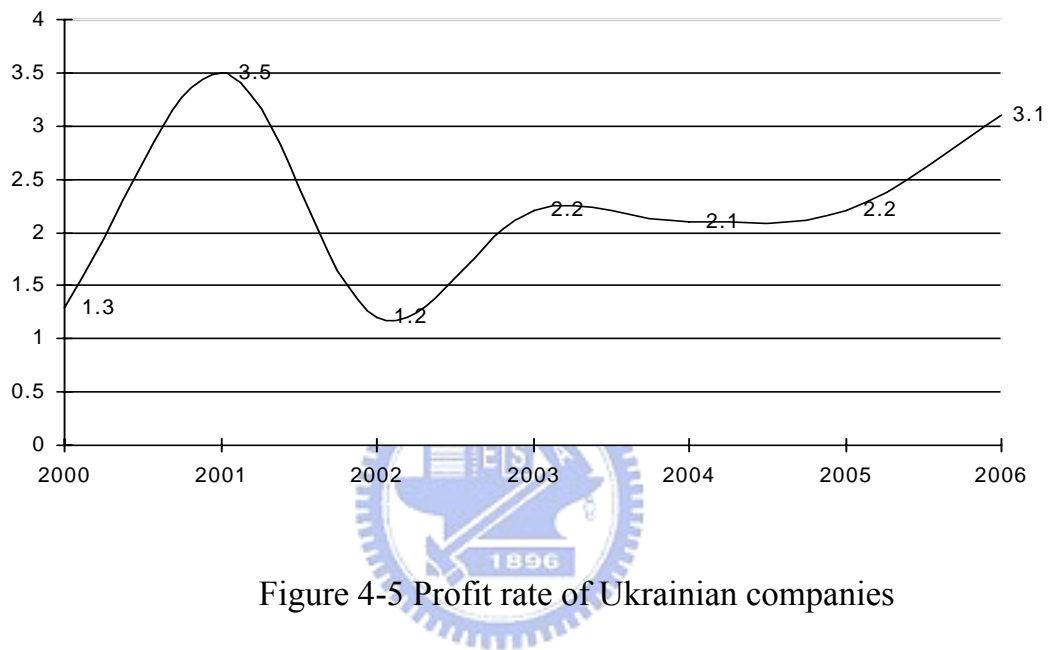


Figure 4-5 Profit rate of Ukrainian companies

From Figure 4-5, the annual revenue has increased from year to year compared to previous years and continues to increase. In period from 2000 (73,202 million NTD) to 2006 (469,798 million NTD), annual revenue increased by 5.93 times.

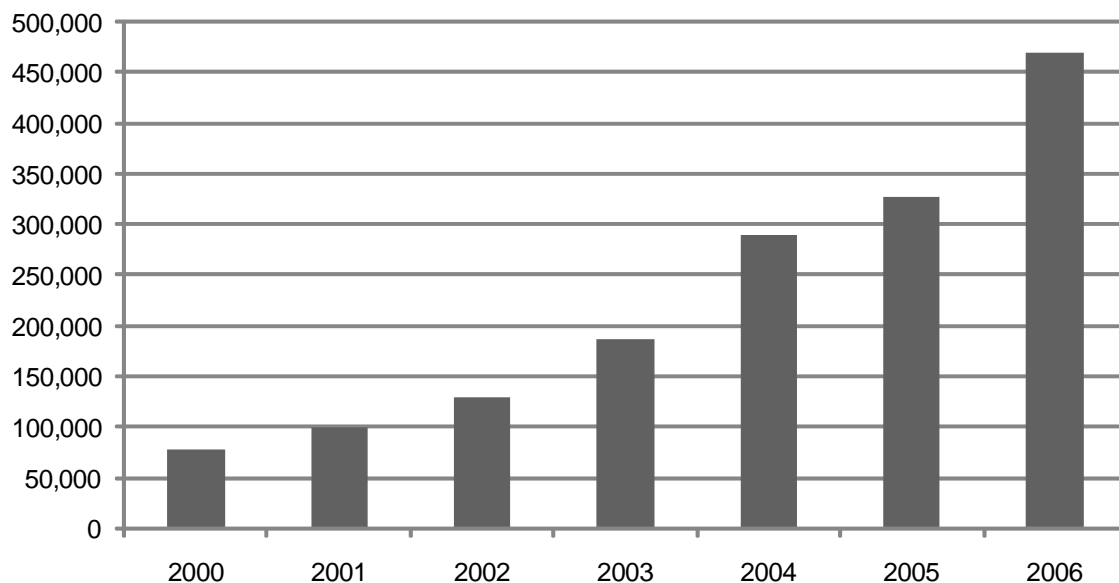


Figure 4-5 Dynamic of growth annual revenue

Table 4-5 reveals government capital investment into construction in the period of 1997-2006. Based on this, the government capital investment from 1997 to 1999 was decreased, from 195,754 million NTD in 1997 to 141,770 million NTD in 1999. After this period, from 1999 (141,770 million NTD) to 2004 (473,220 million NTD), government capital investment increased by 3.34 times. In period from 2004 to 2006, government capital investment increased from 473,220 million NTD in 2004 to 818,259 million NTD by 2006, almost in 1.72 times.

Table 4-5 Government capital investments into construction 1997 – 2006

Years	NTD, millions
1997	195,754
1998	186,148
1999	141,770
2000	142,905
2001	205,757
2002	243,774
2003	329,043

2004	473,220
2005	591,597
2006	818,259

Data source: State Statistics Committee of Ukraine, www.ukrstat.gov.ua, 2008

Figure 4-7 shows that the period of greatest increased investment was from 1999 until 2004, during which it increased by 3.34 times. The peak of investment was in 2003, which increased on 31.3 % over the previous year. And from 2004 until 2006 investment increased almost by 1.72 times.

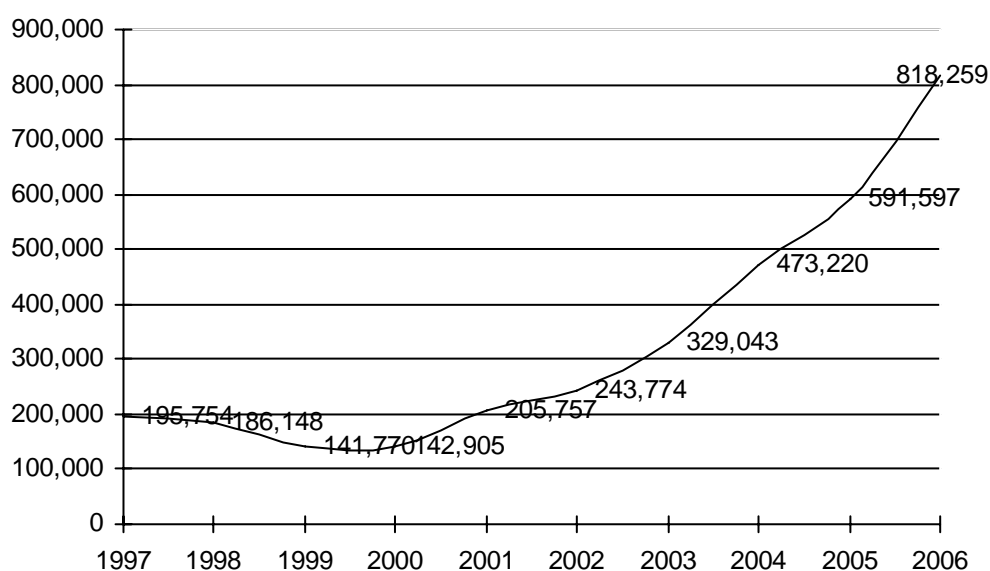


Figure 4-7 Government capital investments into construction

From Table 4-6 the number of award contractors in the period from 2004 to 2007 was 12,687, but only 10,780 were awarded. From which open tender made up 12,636 awards – awarded 10,736, two-stage tender accounted for 27 awards – awarded 26, limited tender was 24 awards – awarded 18.

Table 4-6 Number of award contractors 2004-2007

	All tenders		Awards tenders		Not awards tenders	
	Number	%	Number	%	Number	%
Open tenders	12,636	99.60	10,736	84.62	1,900	14.98
Two-stage tenders	27	0.21	26	0.20	1	0.01
Limited tenders	24	0.19	18	0.14	6	0.05
Total	12,687	100.00	10,780	84.97	1,907	15.03

Data source: State Statistics Committee of Ukraine, www.ukrstat.gov.ua, 2008

The Figure 4-8 shows that the most requisite and widespread of tenders is open tenders and makes up 99.6% of all tenders in Ukraine. But we see that 14.98% of open tenders are not awarded.

The second place of tenders used is the two-stage tender, which makes up 0.21% of all tenders, but 0.01% of two-stage tenders are not awarded.

Third are limited tenders, which consisted of 0.19% of all tenders in Ukraine, but only 0.14% was awarded.

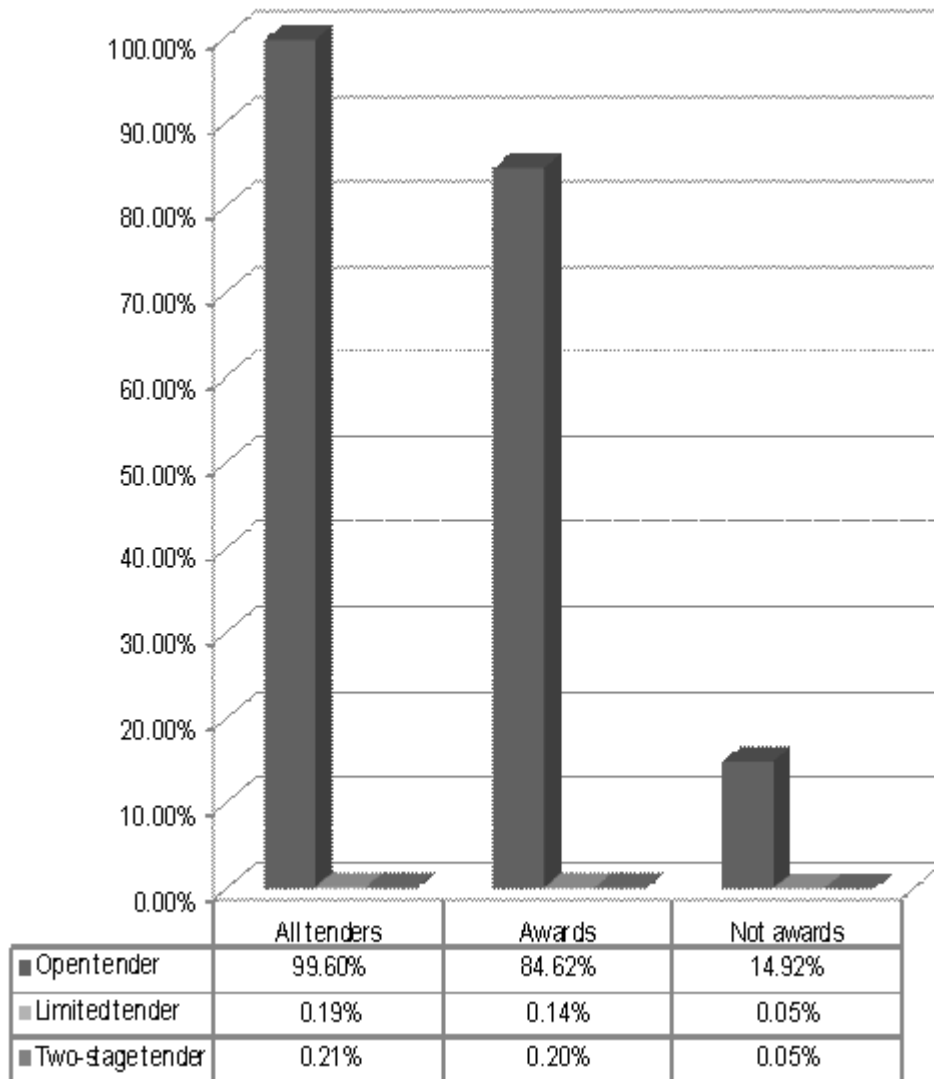


Figure 4-8 Percentages of successful tenders

Reasons for not awarding tenders:

1. Invitation to the tender less than 3 competitors;
2. For evaluation accessed less than 3 competitors;
3. Infringement of articles of the Law of Tender;
4. Not revealing of interest to the tender;
5. Not agreements in the price;
6. Canceled by owner reason.

4.3 Summary

The tendering system of Ukraine is based on Temporary Government Procurement of Goods, Works and Services, because Ukraine became a member of WTO and has two years to change tendering system, as required for WTO members.

The most influential companies in construction area in Ukraine consisted of limited liability companies and private enterprises. Compared to private companies, all public companies have priority in tendering proposals.

The period of highest government capital investment was from 1999 until 2004, during which it increased by 3.34 times. And from 2004 until 2006 investment increased almost in 1.72 times. It means the construction branch in Ukraine is very important, has effective power, and has big interest from the government.

The greatest parts of all tenders in Ukraine are open tenders. The second place of tender used is two-stage tenders and third place is limited tenders.



CHAPTER 5 COMPARISONS

5.1 General comparison

This general comparison includes information about on which regulations the tendering systems of Taiwan and Ukraine are based (Table 5-1). Taiwan joined the World Trade Organization (WTO) in January 1, 2002 and changed its tendering system according to requirements of The Government Procurement Agreement for WTO members. The Taiwanese tendering system is based on The Government Procurement Act “Mother Law,” and has 36 related regulations, and “Child Laws,” which explain in detail and add tendering structure.

Ukraine became a member of WTO in May 16, 2008, but is still using its old tendering system. The Ukrainian tendering system is based on the Temporary Government Procurement of Goods, Works and Services, because now the government is preparing a new procurement law, in which will be included requirements for WTO members. And in the past did not have any related laws, for better understanding tendering system.

Table 5-1 General comparisons

Categories	Taiwan	Ukraine
1. Member of WTO	Yes, January 1, 2002	Yes, May 16, 2008
2. Name of regulation, “Mother Law”	Government Procurement Act	Temporary Government Procurement of Goods, Works and Services
3. Year of established Law	May 27, 1998	March 28, 2008
4. Number of chapters	8	10
5. Number of articles	114	93
6. Number of “Child laws”	36	0

One very inconvenient thing regarding Ukrainian Temporary Government Procurement of Goods, Works and Services is it does not have an English version of the law. Now, foreign companies cannot be competitive with local companies, because they do not have enough information about the tendering process in Ukraine.

5.2 Comparison of tendering systems

The comparison of the tendering systems includes basic and most important general information about the tendering system of Taiwan and Ukraine (Table 5-2). In Taiwan, for open tendering procedures or selective tendering procedures, an entity shall publish a notice of invitation to tender or of qualification evaluation in the Government Procurement Gazette, and also make it available on the information network. The same shall also apply if the notice is amended. In Ukraine for open and two-stage tendering producers, an entity shall publish a notice of invitation to tender or of qualification evaluation in the Gazette of Government Purchase and also make it available on the information network. In limited tendering processes in Taiwan and Ukraine, owners invite participants personally.

Taiwan has three types of threshold for construction work: Threshold for Supervision: 50 million NTD– big projects should be reviewed by Public Construction Commission (PCC), asking owners to provide regulation data to PCC; Threshold for Publication: 1 million NTD; Small Amount Procurement by Central Government Entities: 100,000 NTD or less. In Ukraine, if the budget of a future project is less than 1.8 million NTD, it is not necessary to publish information about the tendering process and tender not will be provided by Temporary Government Procurement of Goods, Works and Services. It will be provided by other regulations (local regulations).

In Taiwan tendering processes are monitored by the central, municipal, and county procurement control units and are supervised by procurement affairs, and controlled by owners and in part by PCC.

In Ukraine, the executing organization of control and tender monitoring process is The Ministry of Economy. It has four organizations to help to do it: the Government Control-Audit Service; the Government Exchequer; the Government Statistical Committee; and the Antimonopoly Committee, and part by owners.

In Taiwan, if the budget of a tender will be more than 200 million NTD, owners can provide more specific qualifications for participants. However, in Ukraine owners can provide some special qualifications at any time, before and after awarding, to be sure of the qualification level of the contractor.

Table 5-2 General information

Categories	Taiwan	Ukraine
1. Where tendering process information is available	Government Procurement Gazette and on web-site 	Gazette of Government Purchase and on web-site
2. Threshold for construction work	-Threshold for Supervision: 50 million NTD; -Threshold for Publication: 1 million NTD; -Small Amount Procurement by Central Government Entities: 100,000 NTD or less.	-Threshold for purchase 1.8 million NTD
3. Who monitors Tendering Process	Procurement control unit and supervise procurement affairs	Ministry of Economy (Government control-audit service; Government exchequer; Government

		statistical committee; Antimonopoly committee) and part by owner
4. Who controls Tendering Process	Owner and part by PCC,	Ministry of Economy (Government control-audit service; Government exchequer; Government statistical committee; Antimonopoly committee) and part by owner
5. Types of tendering methods	Open, selective, limited	Open, two-stage, limited, purchase at one participant
6. Tendering Committee	Created by owner, 5-17 persons	Created by owner, no less than 5 persons
7. Qualification of participants	If budget more than 200 million NTD	Provided by owner in tendering time and after awarding

Taiwan has three types of tendering methods: open, selective and limited. Which is required is determined by the Agreement on Government Procurement for WTO members.

The conditions in which selective tendering method can be used, as are follows:

1. where there is a recurring demand;
2. where the review of tenders takes a long time;
3. where the suppliers cost for preparation of a tender is high;
4. where the qualification requirements for suppliers are complicated;
5. where it is a procurement concerning research and development.

The conditions in which limited tendering method can be used are the following:

1. where there is no tender in response to an open tender, selective tender, or the open procedures or where the tenders submitted have been not in conformity with the requirements in the tender, provided, however, that the requirements of the initial tender are not substantially modified in the contract as awarded;

2. where the subject of a procurement is an exclusive right, a sole source product or supply, a work of art, or a secret, which can be supplied only by a particular supplier and no reasonable alternative or substitute exists;

3. in so far as is strictly necessary when, for reasons of extreme urgency brought about by events unforeseeable by the entity, the subject of the procurement could not be obtained in time by means of open or selective tendering procedures;

4. for additional deliveries by the original supplier which are intended either as follow-up maintenance, or parts and components replacement for existing supplies or installations, or as extension of existing supplies, services, or installations where a change of supplier would not meet the requirements of compatibility or interchange ability with already existing supplies, services, or installations;

5. where the subject of a procurement is a prototype or a subject first produced or supplied which is developed in the course of research, experiment, or original development;

6. when additional construction work which was not included in the initial contract but which was within the objectives of the original tender documentation has, through unforeseeable circumstances, become necessary, and the entity needs to award contracts for the additional construction work to the contractor carrying out the construction work concerned to achieve the objectives of the initial contract since the separation of the additional construction work from the initial contract would be difficult for technical or economic reasons and cause significant inconvenience to the entity. However, the total value of contracts awarded for the additional construction work may not exceed 50 per cent of the amount of the main contract;

7. for any further procurement whose period, value, or quantity to be expanded is indicated in the tender notice and tender documentation;

8. for property purchased on a commodity market;

9. in the case of contracts for professional services, technical services or information services awarded to the winner selected publicly and objectively;

10. in the case of contracts awarded to the winner of a design contest and the winner selection has been conducted publicly and objectively;

11. in the case of designating an area for its real property procurement in response to the need of business operation provided that the real property procured has been solicited publicly in accordance with its requirements and criteria;

12. where the subjects of a procurement are supplies or services not for profit provided by the physically or mentally disabled, the aborigines, prisoners, philanthropic organizations of the physically or mentally disabled, registered organizations of the aborigines, prisoners works, or philanthropic organizations;

13. where a procurement is for the purposes of commercial resale or production of goods or provision of services for resale, and is not appropriate for conducting open or selective tender considering the characteristics or actual needs of the party for resale, manufacturing process, or source of supply; or

14. other circumstances as prescribed by the responsible entity.

Ukraine uses open, two-stage, limited, purchase at one participant tendering process, because Ukraine is member of Commonwealth of Independent States (CIS) and all members use similar regulations, to maintain easy trade relationships.

The conditions in which two-stage tendering method can be used as are follows: the customer cannot make the concrete works or define a type of service and also if for acceptance of the optimum decision on purchase it is necessary to carry on the previous negotiations with participants;

The conditions in which limited tendering process can be used are as follows: the construction works through their difficult or specialized character can be offered the limited quantity of participants.

The conditions in which purchase from one supplier can be use are the following: necessities of conducting of the additional civil work which have been not included in the initial project, but which still through unforeseen circumstances necessary for project performance provided that the contract it will be concluded with the participant of these works, if such works technically or economically connected with the main contract. Thus the total cost of the contract for additional works should not exceed 50 percent of cost of the main contract.

The entity shall establish a procurement evaluation committee, or Tendering Committee, for respective procurement to handle the following matters: selecting a winner and selecting the most advantageous tender or recommending the most advantageous tender to the head of the entity.

The Committee shall be established prior to invitation to tender and shall be dissolved once the evaluation work is completed and there are no pending matters to be resolved. The Committee's duties are: setting or approving the evaluation items, the evaluation criteria, and the evaluation method set forth in the tender documentation; conducting the evaluation of suppliers; assisting the entity in explaining matters in relation to the evaluation criteria, the evaluation process, or the result of evaluation.

The evaluation items, the evaluation criteria, and the evaluation method may be set or approved by the entity without having to establish the Committee prior to invitation to tender if there exists any precedent or that the conditions are relatively simple. However, the Committee shall nevertheless be established prior to the opening of tender.

The Committee shall have 5-17 members in Taiwan and not less than 5 members in Ukraine, with all members having relevant professional knowledge on the procurement matter, and who shall be appointed within or outside the entity.

The main information about the current tendering process is shown in Table 5-3. In Taiwan, for contractors, after they find information about a tender, they can freely buy the tendering package, where all information about the tender

will be included, such as the tendering documentation, tendering method, criteria for awarding, and so on, before joint to tendering process. In Ukraine, however, after a contractor finds a tender, they should participated the tendering process and only then the owner will send full information about the tendering process free of charge.

After getting the tendering package, contractors should prepare a tendering proposal, which includes all requirements from the tendering documentation and should include a Bid Bond. In Taiwan, a Bid Bond consists of 10% of the budget and in Ukraine not more than 1% of the budget. The Bid Bond shall be deposited by the bidder in the form of cash, financial institutions promissory notes, financial institution checks, certified checks, postal money orders, bearers government bonds, certificates of deposit pledged to the procuring entity, irrevocable stand-by letters of credit issued or confirmed by a bank, or bank guarantees or insurance policies under which the bank or insurer shares the liability with the bidder jointly and severally.

After awarding, the owner can ask the bidder about giving him a guarantee-performance bond to be sure the contractor will finish the work. In Taiwan, performance bonds are 5% - 10% of the contract price, in Ukraine 5%.

Table 5-3 Tendering Process

Categories	Taiwan	Ukraine
1. How to obtain tendering package?	Contractor buys by himself	Sent by owner for all participants, free of charge
2. Bid Bond	10% of budget	1% of budget
3. Tendering Proposal	Single and joint	Single
4. Award	LBP, MAT: 1) fixed price – 100% of award; 2) price is max 50% of award	MAT, price is min 70% of award

5. Government estimation (ceiling price)	Using	Not using
6. Report of result of tendering process	Sent to PCC	Sent to Ministry of Economy
7. Performance bond	5 – 10% of price of contract	5% of price of contact
8. Dispute organization	Complaint Review Board of Government Procurement and arbitration institution	Ministry of Economy

In Taiwan, if the budget of a project is too big, the owner can provide a joint tendering proposal. It means the activity of two or more suppliers participate jointly in tendering, jointly executing the procurement contract after being awarded, and assuming the joint and several liability there under, with a view to contracting for construction work or to supplying property or services.

Taiwan uses Low Bidding Price (LBP) and Most Advantageous Tender (MAT) award methods. MAT can be of two kinds: 1) fixed price – 100% of award; 2) price is max 50% of award. Ukraine uses MAT, but the price can be less than 70% of award. Ukraine does not use LBP, because of concerns about quality.

The main principles of award contractors in Taiwan, as are follows:

1. where a government estimate is set for the procurement, a tenderer whose tender meets the requirements set forth in the tender documentation and is the lowest tender within the government estimate shall be awarded;

2. where no government estimate is set for the procurement, a tenderer whose tender not only meets the requirements set forth in the tender documentation with a reasonable price, but also is the lowest tender within the budget amount shall be the winning tenderer;

3. the tenderer whose tender meets the requirements set forth in the tender documentation and is the most advantageous one shall be the winning tenderer;

4. to adopt multiple award. An entity may prescribe in the tender documentation that contracts may be awarded to different tenderers by different items or different quantities, but the spirit of competition as to the lowest price or the most advantageous tender shall be respected.

The Ukrainian main principles of awarding contractors, as are follows:

1. the price;
2. term of performance;
3. conditions of calculations;
4. rating of the participant in the register of participants of procedures of purchase

The relative density of price criterion cannot be the lower than 70 percent.

Taiwan uses government estimation (ceiling price). The government estimation is always lower than the budget amount. If the contractor's proposal amount is higher than the ceiling price, this proposal cannot be awarded. The owner can ask participants to reduce the price to lower than the ceiling price. If tender is restricted and none of the contractors want to reduce their prices, however, the owner can award the contractor, if their price is higher by 4% - 8% of the ceiling price. In Ukraine, if the price of the tendering proposal is too high, the owner rejects the proposal.

After awarding, all information about the tending proposal should be reported to PCC in Taiwan, and to the Ministry of Economy in Ukraine.

If during or after a current tending process there are some problems or disputes, in Taiwan, contractors can go to Complaint Review Board of Government Procurement and arbitration institution to help him solve it, or the owner can solve it. In Ukraine, the bidder can ask one of the organizations of the Ministry of Economy (Government control-audit service, Government exchequer, Government statistical committee, Antimonopoly committee) to solve the problem, or the owner can solve it.

5.3 Comparison of statistical database of tendering systems

Comparison of statistical database of tendering processes between Taiwan and Ukraine is shown in Table 5-4. The basic participants of the tendering process in Taiwan are private companies. Public companies do not enter tender competitions. Because, if a country has already joined the WTO, it means that government cannot support public companies, so the public companies cannot be competitive in comparing with private companies.

In Ukraine, it is observed that private and public companies can join the tendering process. If owners of private companies have more than 50 % of the shares owned by the state, it is a public company, though it is considered as private. Such a company has all the privileges of the state and pays taxes as a private company.

Any public company has an advantage in the tendering process over a private company. And tender offers of public companies have a big priority.

Table 5-4 Comparison of statistical database

Categories	Taiwan	Ukraine
1. Who can participate in tendering process	Private company	Private and public companies
2. Average percentages of using different tendering methods	1999 – 2004 years 1) Open tender – 91.53%; 2) Limited tender – 6.4%; 3) Selective tender – 2.07%	2004 – 2007 years 1) Open tender – 99.6%; 2) Two-stage tender – 0.21%; 3) Limited tender – 0.19%
3. Government capital invested (1999 – 2004)	Increased by 1.80 times in 5 years	Increased by 3.34 times in 5 years

The most popular tendering method in Taiwan and Ukraine is open tendering. In Taiwan it consists of 91.53% of all tenders and it consists of 99.6% in Ukraine. The open tendering process is more useful, because all participants can join the tendering process and can try to bid a tender.

The second most popular tendering method in Taiwan is limited tender, which consists of 6.4% of all tenders, because it is not always possible and it is necessary to invite all interested persons to join in the tendering process. In Ukraine it is two-stage tender, which consists of 0.21%, because the customer cannot make the concrete works and also for acceptance of the optimum decision on purchase, it is necessary to carry on the previous negotiations with participants

The last of popular tendering method in Taiwan is selective tender, which consist of 2.07%, because of the need to do pre-qualification and eliminate the list of contractors. In Ukraine it is limited tender, which consists of 0.19%, because it is restricted tendering process.

The government spends a lot of money in the construction sphere in Taiwan and Ukraine. From 1999–2004, government capital investment increased 1.80 times in Taiwan and in Ukraine 3.34 times. This means the construction branch is very important for each country and the government tries to support the construction branch by all methods.

In 2007 in Ukraine the year-to-year increase in foreign investment consisted of 9 billion USD and around 30% was invested in construction. In 2008 it will consist of 10 billion USD. From January to March already 2.4 billion USD have been invested.

5.4 Lessons Learned

Based on comparison, we see, that Taiwan and Ukraine have a lot in common parts of tendering system: how to find the tender, who cannot join to tendering process, what are the reasons for annulment of the tender, bid bond, performance bond and etc. But there are still a few differences: regulation base,

joint tendering proposal, government estimation, controlling system, awarding process and etc.

1. In Ukraine there are a lot of cases in which after awarded contractor, the price goes up higher than the budget. One of the ways to regulate it is to use the government estimation (ceiling price). Because the ceiling price includes some part of money, as a reserve for future work.

2. Controlling of the tendering system in Taiwan is only done by owners and part by PCC, so Taiwan can borrow some experiences of Ukrainian controlling systems. For financial, economical and organizational parts of the tendering system should be controlled by different government departments.

3. Now, Ukraine is changing its procurement system to a new one, because it became a member of WTO. So, Ukraine can borrow some parts of the structure of the tendering regulation base of Taiwan, to explain and add main law, and to do the tendering system more openly and effectively.

4. In Ukraine year-to-year foreigner and government investment increased, so big part of investment put in construction sphere. In a future the budget of project will be too big, to bid it by one contractor. So, it will be necessary to provide a joint tendering proposal, to cooperate powers of few contractors to bid a big project together.

5. Different countries have different views. One of the reasons, when a country tries to be competitive with other companies in the world, the country wants to join the World Trade Organization. First, however, the country should change some regulation requirements, to have the same right to compete with other WTO members.

The second reason, when Ukraine was a member of the Union of Soviet Socialist Republics (USSR), a lot of countries had the same laws and regulations system, but after the USSR was broken, countries still worked together and created the Commonwealth of Independent States (CIS). Now they are still using very similar regulations, to support one another and to maintain good and easy relationships between countries.

6. Taiwan uses two methods of awarding LBP and MAT, but the number of public work projects using MAT has steadily increased; the survey results indicate that MAT is more effective than LBP in terms of time, quality, satisfaction, on-site safety and disputes on contract fulfillment; the overall effectiveness of the MAT method has gained positive recognition among the participant groups of public work.

Ukraine uses only one awarding method, MAT. Ukraine does not use LBP, because if only evaluated by price, the quality of final work will be “bad”. In Ukraine LBP was used before, but after a lot of cases, when lower price bid tender, the final work was of very bad quality and after half a year it was necessary to do a reconstruction and spend more and more money. Ukraine learned some lessons and now more importance is placed on quality of work, not just price, and now Ukraine uses MAT. Price, nevertheless, is still one of the most important requirements to awarding tender, and makes up approximately 70% of awarding: using LBP is easier, but not as effective; using MAT provides a better evaluation of the tendering proposal and is more effective, but MAT is still very hard to use.

7. The most popular tendering method in Taiwan and Ukraine is open tendering method. So, in the future, if Taiwanese construction companies want to join and bid tendering process in Ukraine, they should use open tender and if Ukrainian Construction Companies want to join and bid tendering process in Taiwan, they should use open tender. It is the easy way to bid a tender.

CHAPTER 6 SUMMARY AND RECOMMENDATION

Based on this comparison study, we can see the Taiwan and Ukraine tendering systems have a lot in common, as well as many differences, in their tendering structures and procedures. Different countries have different visions regarding the tendering structure. Some countries created the tendering system to be competitive with international companies and to build global relationships. Some countries created the tendering system to be competitive only with nearby countries and to maintain easy trade relationships, or try to copy the tendering system of the biggest nearby countries.

Countries should study the tendering systems and laws of different countries in order to gain experience and to improve and innovate their own tendering structures, to do tendering processes more openly, simply and efficiently, and to increase competition between foreign and local companies for the creation of international marketing.

Now that Taiwan and Ukraine are both members of the WTO, their construction companies can join the tendering process in both countries to bid a project. If competition increases, this means the price will go down.

6.1 Contributions

Based on this comparison of this study, the contributions of this research include:

1. This was the first comparison tendering systems of construction work between Taiwan and Ukraine. We can see the counties have a lot in common, as well as many differences, in their tendering structures and procedures.

2. This research has done comparison of regulations and statistics databases. The tendering systems are different because countries have different visions. However, countries have a lot in common in construction sphere, construction area in both countries have “big” power.

3. Based on comparison study, countries can learn experience form each country and borrow some parts of tendering structure, to innovate and improve their tendering systems, are as follows:

- Structure experience - borrow some parts of structure of the tendering regulation base of Taiwan, to explain and add main law, and to do the tendering system more open and effective;
- Government estimation (ceiling price) – a lot of cases, when after awards price go up, one of way to regulate it is to use government estimation;
- Controlling of the tendering system – each tendering step (part) should be controlled by different government department, to reduce influences on tendering process;
- Joint tendering proposal – biggest tender cannot be bid by one contractor. If several contractors cooperate, it is an easy way to bid biggest tender;
- LBP versus MAT – every country has a different culture, including different criteria to award a contractor, which can be useful only in this country;
- The most popular tendering method – open tendering method, the most useful and convenient method to join and bid a tender in Taiwan and Ukraine;
- International relationship – Ukraine should learn Taiwanese work's experiences with different countries and experience of being a WTO member.

6.2 Limitations

The main limitations of this research are the following:

- Research concentrated only on Government Procurement Regulations of Taiwan and Ukraine;

- Concentrate only on tendering systems of construction work of Taiwan and Ukraine;
- New Taiwanese statistical data is not available and this is main reason why different years were used in this research;

6.3 Recommendation and future work

The recommendations and suggestions for future work are as follows:

- For the next comparison, includes new tendering system of Ukraine;
- Explain in details for the practical use of regulations;
- Explore how Taiwanese construction companies can participate and bid tenders in Ukraine;
- Explore how Ukrainian construction companies can participate and bid tenders in Taiwan; and
- What problems and solutions in the tendering systems for both countries?



REFERENCES

1. On-line tendering database – <http://basic.tendery.ru>
2. Bryntse, K., Greve, C., Competitive contracting for public services: a comparison of policies and implementation in Denmark and Sweden, *International Public Management Review*, Vol. 3, 2002
3. Elton, D.E., Hsein, C. J., Russell J. S., Contractor pre-qualification using Fuzzy sets, *Civil Engineering and Environmental Systems* 1995, Vol. 1, pp. 1-17
4. Jin, F.S., Wei, T.C., A method to determine minimum contract bids for incentive highway projects, *International Journal of Project Management*, Vol. 21, 2003, Pages 601-615
5. Lambropoulos, S., The use of time and cost utility for construction contract award under European Union Legislation, *Building and Environment*, Vol.42, 2007, pp. 452–463
6. Ohno, T., Harada, Y., A Comparison of Tendering and Contracting Systems for Public Works between Japan, the United States and EU Countries, *Government Auditing Review*, Vol. 13, 2006
7. Palaneeswaran, E., Kumaraswamy M., Recent advances and proposed improvements in contractor pre-qualification methodologies, *Building and Environment* 2001, Vol. 36, pp.73-87
8. Peurifoy, R.L, Oberlender, G.D., Estimation construction cost, fifth edition, McGraw-Hill Higher Education, 2002
9. Lai, K.K., Liu, S.L., Wang, S.Y., Provisional quantitative methods for evaluating bids submitted for apartment construction projects. Beijing (PRC): The Beijing Construction Market Administrative Office for Inviting and Submitting Bids for Construction Projects; 1998.
10. Russell, J. S., Skibniewski, M. I., Cozier, D. R., Knowledge-Based System for Contractor Pre-qualification, *ASCE*, 1990, Vol. 116, No. 1, pp. 157-171.
11. Russell, J. S., Skibniewski, M. J., Contractor Pre-qualification Model, *Journal of Computing in Civil Engineering*, ASCE, 1990, Vol. 4, No. 1, pp. 77-90.

12. Russell, J. S., Skibniewski, M. J., Decision Criteria in contractor Pre-qualification, *Journal Management in Engineering*, ASCE, 1988, Vol. 4, No. 2, pp. 149-164
13. Thomas, S., Skitmore, R.M., Decision support system for contractor pre-qualification, *Civil Engineering and Environmental, Systems*, 1995, Vol. 12, pp. 133-159
14. Tzeng, W.L., Li, C.C., Chang, T.Y., A study on the effectiveness of the most advantageous tendering method in the public works of Taiwan, *International Journal of Project Management*, Vol. 24, 2006, pp. 431-437

