

## **Methods of determining costs of uncompleted construction contracts**

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Companies that provide long-term services, including construction companies, face a problem of determining revenues and costs of uncompleted service to calculate correctly contract effects and present financial results from the realized contract at different reporting stages. Therefore the accountancy task is – in the area of long-term contracts for construction services – to measure revenues and costs related to a contract in the way that would help to assign them correctly to the relevant report period and define partial earnings, regardless to incurred amounts documented by invoices. At the balance sheet date the assessment of revenues and costs results from the actual stage of service progress, despite non-completion of the contract as a whole.

Polish companies generally use issued invoices method to determine revenues, costs and financial results of contracts. In many cases partial invoices issued, being the basis for determining the service sales revenue and receiving money on the due dates, did not reflect the actual progress of works done and were usually inflated. Costs of a certain stage of work were assigned to the same period that the revenues of partial invoices were received, and costs of services not invoiced were shown as work in progress. Inflating receipts, squeezing costs and disregarding the current provisioning for correction works resulted in profitability distortion of uncompleted service and costs of work in progress (not invoiced costs of work). Contract profitability at the time of settlement was lower than during its realization. To prevent that Polish accountancy regulations introduced provisions and interpretations of International Accounting Standards (IAS). The issue of long-term contracts was for the first time governed by the amended Accounting Act (AA) effective from 2002 [10]. Implementation of specific rules for determining receipts and costs of service in progress was aimed at correct presentation of financial results achieved at different report stages.

This article aims to give a definition of long-term construction service, present a range of its costs under the applicable accounting law

in Poland and describe the specific rules of determining the costs in relation to revenues from uncompleted construction services at the balance sheet date. Literature studies method was used in the article as well as comparative analyses of selected regulations under Accounting Act, National Accounting Standards No 3 “Unfinished building services” and IAS No 11 “Construction contracts”.

**The concept of long-term service under Polish accounting law**

Regulations of the AA are quite general and do not settle many questions that appear when they are implemented in practice. However, under Art 10 AA in resolving issues outstanding the regulations the business entity can apply National Accounting Standards (NAS) No 3 “Unfinished building services” and then the solutions of International Accounting Standards IAS and International Financial Reporting Standards (IFRS). Entities that compile the annual financial statements in accordance with IAS/IFRS are obliged to apply IAS No 11 “Construction contracts”, IAS No 18 “Revenue” and IAS No 12 “Income taxes”. Table 1 presents definitions of long-term services under accounting law.

Table 1 – The term of long-term service under Polish accounting law and IAS No 11

Type of regulation	Definition of long-term services
Accounting Act of 29 September 1994 Dz. U. No 121, point 591, amended, Art. 34a-34d.	AA does not define the concept of long-term service. The Act uses a term of “uncompleted service covered by a contract”. In Art 34a the following notation was made “Revenue from service execution in progress, including building service, covered by a contract during the realization period longer than 6 months, completed at the balance sheet date to a significant stage is determined at the balance sheet date”.
National Accounting Standard No 3 „Uncompleted construction services”, Dz. Urz. MF, 2009 No 16, p. 88.	The term „construction services” means services of construction, reconstruction, improvement, renovation, demolition and repair of structures connected permanently to the ground, made of construction materials and components resulting from this construction works. They include in particular site preparation, erection of complete buildings and constructions or parts of them, works included in the civil

		engineering, fitting building installations, construction finishing works, environmental restoration after demolition of buildings or constructions.
IAS Construction contracts, International Financial Reporting Standards, Part A, SKwP and IASB, IFRS, Warsaw 2011, p. A514.	11 [in:]	The term „construction contract” means a contract subject of which is creating of an asset or group of assets closely interrelated or interdependent in terms of design, technology, utility function or ultimate purpose or use.

Source: own work

Unambiguous identification of long-term services based only on the AA is complicated. The Act lists only conditions which if fulfilled classify construction services to long-term ones, such as: the beginning and end of the service falls in different periods, the service is uncompleted at the balance sheet date, the service is provided for 6 months or longer, works are well advanced at the balance sheet date, estimated costs of service for the whole time of its realization can be correctly defined. The AA regulates the rules of determining revenues and costs of any type of uncompleted contracts for services, including building services. The scope of NAS No 3 was exclusively limited to construction contracts, with a recommendation of implementing the rules set in it also to other services of a similar character. IAS No 11 applies to contracts for creation of any assets, also in case of long-term production.

Contracts are formulated in many ways, IAS No 11 classifies them as fixed price contracts and cost plus contracts. Polish accounting regulations are in this respect modeled on IAS No 11. Due to the method of determining the price two types of construction contracts are distinguished:

- flat-rate contracts which define the fixed price of contract (as a whole or its stages) or rate of conventional (eg. a lump sum per hour or any other unit of work), contracts can include a clause that allows upgrading the price;
- contracts with the price of „cost plus profit mark-up” when the contractor receives reimbursement of actual or planned costs, defined in

the contract, plus a fixed percentage of profit calculated from these costs or a fixed rate of profit.

One of the basic characteristic features of long-term construction contracts is that they are individual in nature and rarely repeatable. They involve engagement of significant human, physical and financial resources of a contractor, service pricing system is usually complicated, the service is funded by the client during the execution of the contract and not after completion of the service, schedule of invoicing and payments fixed by the contractor and client does not always reflect correctly the stage of works done, long rotary cycle causes the estimates on the gain or loss on the contract undergo many changes during its execution period, financial-accounting system functions on the basis of collecting and analyzing information in a cross-section of individual orders [2, pp. 173-174].

Construction contract can be concluded to make a single element of assets (eg. build a bridge, a road, a pipeline) or it can refer to a group of assets that are closely interrelated or interdependent (eg. construction of refineries, industrial complexes) due to technical, organizational and technological conditions, purpose, utility functions.

#### **Range of long-term construction contracts costs**

For each long-term contract a separate order is made which by calculation method of addition accumulate the contractor's costs of construction contract execution and include direct costs, indirect production and other contract execution costs that under the contract conditions are covered by the client. Picture 1 shows the range of long-term construction contracts costs. Contractor's costs of production include costs that can be directly associated to all the three stages and verified part of costs that can be indirectly associated to execution of a certain service according to generally accepted cost calculation rules. Costs of contract can be increased by other costs that under the contract conditions are covered by the client, eg. costs of servicing debt incurred to finance the execution of services. It is in compliance to IAS 23 "Outsource financing costs".

Contractor costs prior to entering into a service contract (so called „pre-contractual” costs) can be classified as assets and separately accounted as active accruals of costs if their coverage by income is probable in the future (Art. 34c AA). Allocating them between reporting periods is usually done with the use of contract advancement degree

indicator. Otherwise, such costs are not related to execution of the contract and are included in general administrative costs. Examples of such costs are: costs of preparing the offer, tender participation costs, official fees and other costs of obtaining the order. Likewise should be recognized the costs of staff trainings related to contract execution [3, p. 323].

Costs of construction contracts do not include:

- costs resulting from unused production capacities and production losses (eg. costs of unplanned downtime of machines and equipment or construction workers);
- general management costs reimbursement of which is not provided in the contract;
- research and development works reimbursement which is not provided in the contract;
- costs of sales, promotion and marketing.

Total of these costs influence the financial result of the period they are incurred.

### **Costs, revenues and financial result of uncompleted construction contracts**

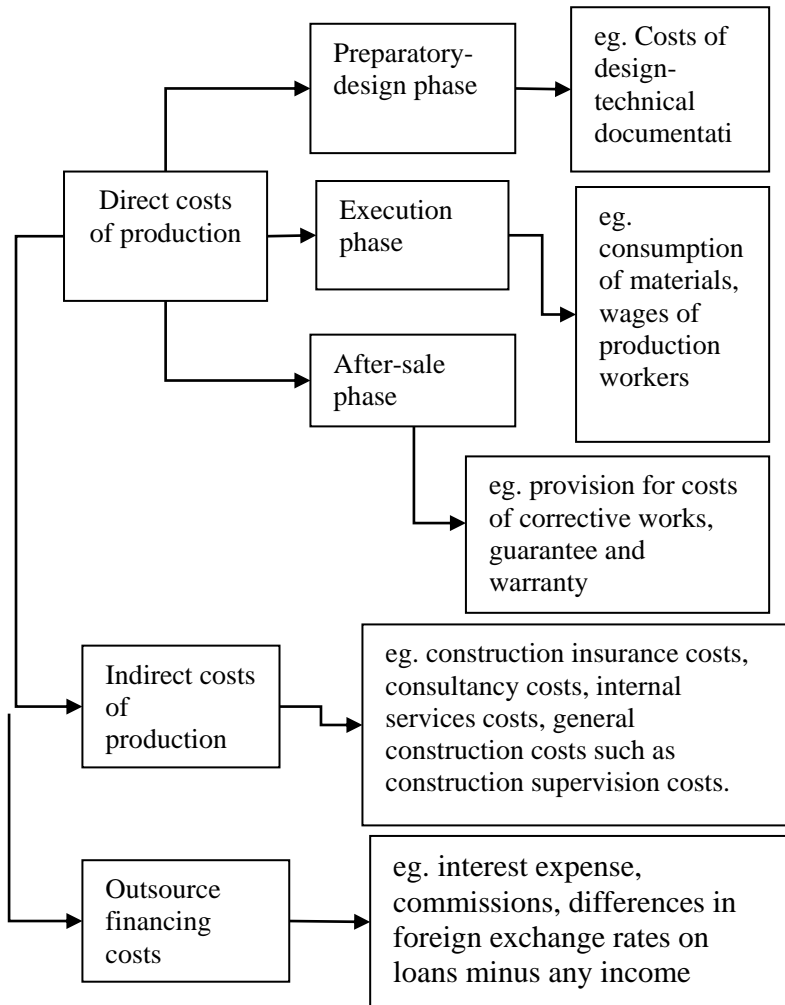
Both Polish accounting law [6, 10] and IAS No 11 describe two financial result determination methods for a contract – stage method and zero result method.

The accrual method is important in contract valuation, which states that the effects of transaction and other events are recognized when they occur and not when cash is received or spent, and applies the rule of revenues and costs matching within each service. It should be stressed that the risk of executing construction contracts is much higher than in any other traditional business activity (eg. trading).

The first method is that the revenues and costs of uncompleted construction service are determined on the balance sheet date in proportion to the stage of service progress if the stage can be reliably determined [10, Art. 34a par. 1], deducting revenues and costs from the previous year.

This method allows determining the financial result on the basis of revenues and costs reflecting the level of business activity in a specific period. If the stage can not be reliably determined, revenue is determined as equal to the costs incurred in the period, cover of which is probable in

the future (Art. 34a par. 4). This method is called zero result method.



Picture 1 – Main elements of long-term construction service execution costs Source: own work based on [9, pp. 285-287].

Under the AA the basic method and therefore most popular in practice is measurement of service progress stage through determining

the share of contract costs incurred from the beginning of the contract to the balance sheet date in the total contract execution costs.

The total amount of contract costs includes costs already incurred and the ones that need to be incurred to complete execution of the contract. The cost method requires business entity to have a verified global budget of the contract costs for each balance date and to create its effective execution control system. Commensurate with costs the revenues are calculated in the percentage of total revenues equal to the percentage of so far incurred costs of contract execution to the total costs already incurred and the ones that need to be incurred to complete execution of the contract. The measurement of long-term service contract stage of progress should possibly best reflect the results of its execution. The measurement of the service execution stage can also arise from the production results.

It includes determining the types of work done with physical inventory or any other records of the service progress and their valuation, as well as defining their relation to the price for the whole service. In this case the costs are of secondary size adjusted to the size of revenue.

The zero result method limits indication of revenues to the amount of incurred costs that can be recovered. This method makes the profit on the contract formed only when it is fully completed or at the moment of changing to the work stage method.

All the results of changes in contract scope (price, upgrading the global budget of costs and revenues from construction) influence in total the financial result in the period that these changes occurred and possibly the following periods.

The AA regulations, NAS No 3 and IAS No 11 order that the expected loss on the contract is immediately reported as a cost in financial result. Compensating losses on one contract with profits from another is unacceptable.

Both estimated revenues and costs influencing the financial result that are documented with internal documents and not invoices, can differ from those actually incurred. Excess of the estimated revenues over invoiced revenues is recognized as non-invoiced receivables, the contrary situation results in demonstrating the accruals of revenues. The excess of the estimated costs over incurred ones is treated as passive accruals of costs, the contrary situation results in forming the active

accruals of costs. These are presented in the balance sheet of the unit.

Reliable determination of costs and revenues (assessment, analyses, verification of approach completeness, updated estimates) and individual construction contracts execution stages require very good cooperation of accountants and managers of individual constructions.

### **Conclusion**

Since 2002 long-term projects are in Poland understood like anywhere else in the world which is important to construction companies acting in global conditions and co-operating with foreign partners. Polish accountancy solutions relate to valuation of contracts on the balance date and not during the whole financial year.

Setting 6-month term of service indicates that contracts with shorter execution time are regarded insignificant and production costs of such contracts are entered as a reserve asset of work in progress. For each contract companies open separate orders which by calculation method of addition accumulate the contractor's actual costs of contract execution related to individual stages of the contract life cycle with a division to direct costs, indirect costs and other costs of contract execution.

The financial result shown at the end of a financial year equals the part of profit estimated to be made of the whole contract reflecting the stage of works. The costs and revenues included in the profit and loss account can be different from taxable amounts. This way of accounting results in temporary differences between accounting financial result and taxable one and between accounting result and money result.

The differences effect in an additional duty of determining the annual deferred income tax. The effects of contracts in progress depend largely on the chosen method of determining the stage of service progress and as a consequence increase the role of forecasting the costs of contract execution.

Information provided by accountancy is interrelated data in two cross-sections *ex post* and *ex ante*.

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