# Analysis of Assets in Balance Sheet of Construction Company


**Tatjana Horvat and Kristina Žerdin**

**Abstract** In this paper we focus on the analysis of the volume of assets in the balance sheet of selected construction company in Slovenia, Reflex. Selected company belongs to a construction branch in the activity of the final works. According to the data by the Statistical Office of the Republic of Slovenia, financial and economic crisis has begun in 2008, which was in Slovenia first expressed in the construction sector. The purpose of the research is to examine the volume of assets in the balance sheet of Reflex and in the construction branch in order to determine whether construction activity after a few years of economic crisis is recovered or not. Developments in the branch affect future operations of the company Reflex. It is very difficult to say that a company or activity recovers if the volume of assets is decreasing.

Research period covers the years 2008–2012.

As studies and statistics data warn, the main problems of construction companies in Slovenia are decline of orders in construction sector, drop in real estate sales, and payment indiscipline. All this affects business volume of the construction company. The volume of business is reflected also in the volume of assets on the balance sheet. Therefore, in this study an accounting analysis of assets volume of the company Reflex and a statistical analysis of the assets in a construction branch in the field of building completion were done. By an accounting analysis, we examined the individual movements in long-term and short-term types of assets of the company Reflex. By statistical analysis we examined whether the volume of assets in companies within the construction branch significantly increased. For the statistical analysis, we used *t*-test (one-sample statistics) for the analysis of the arithmetic mean of assets. Both analyses were done on a sample construction company

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engaged in building completion and finishing which, in 2012, employed at least ten workers. Thus, the selected sample contains 56 companies.

By an accounting analysis of assets volume, we found that the volume of assets in the company fluctuated and in 2012 reached the lowest value; the volume of total assets in 2012 does not even reach the value of assets in 2008. The value of tangible fixed assets of the company dropped significantly; current assets increased mainly due to an increase in operating receivables.

By statistical analysis of the volume of assets of a construction branch, we found that the volume of assets does not increase on such a scale that it would be able to confirm with sufficient accuracy, so we cannot talk about recovery within the analyzed activities.

The limitation of research represents the number of construction companies with final construction work in a sample of companies. On the other hand, on partial accounting analysis, we studied only assets in the balance sheet, but not other economic categories in the financial statements. Based on these limits, after a review of assets in the balance sheet of Reflex, we suggest improving the management of funds, in both long-term and short-term types.

**Keywords** Balance sheet • Assets • Construction activity • Financial crisis • Accounting analysis

## 1 Introduction

Assets include the rights and money available to the company, and with its help the company can pursue its business goals (Kokotec et al. 1997, p. 29). Assets in the balance sheet affect the volume of business and the size of the company. The size of the companies is measured by Simunic (1980, p. 172), Palmrose (1986, p. 99), and Simon and Francis (1988, p. 257) on the basis of the volume of total assets in the balance sheet.

The financial statements of the company have been prepared in accordance with accounting and reporting requirements set by the Slovenian Accounting Standards 2006 (SAS), in accordance with the Slovene Companies Act (CA-1).

The Slovenian Accounting Standards should not be contrary with the International Accounting Standards (IAS) and must summarize the content of Directive 78/660/EEC and Directive 83/349/EEC (CA-1-UPB3, 9195). The financial statements have been prepared in Euros, rounded to unit, for the financial year that equals the calendar year.

The balance sheet is the most important and basic financial statement because in all other statements, we need the balance sheet data (Šuštar 2009, p. 21). The format of the balance sheet is prescribed by the Slovenian Accounting Standards (SAS 24 2006).

The balance sheet is a static and an aggregated financial statement because the data were collected on the last day of the year and represented in aggregate

components. The balance sheet is drawn up for the needs of internal and external financial reporting. It has the form of a double-sided balance sheet, and it is classified in accordance with the requirements of the Slovene Companies Act (Šuštar 2009, p. 22).

Bilateral equilibrium of the balance sheet means that the balance sheet shows the same total value of assets and liabilities. In accordance with accounting standards, in the balance sheet, for the external reporting, assets are classified substantively on the principle of increasing liquidity, which means their distance from cash. Most liquid forms of assets are cash. Liabilities are classified in the balance sheet on the principle of increasing maturity of individual liabilities (Igličar et al. 2013, p. 302). Liabilities show us how the company's assets are financed. The balance sheet is related to other fundamental financial statements, that is, the income statement. This statement will be in the paper devoted with less attention. One of the most important links between the balance sheet and income statement is a company's profit. Profit or loss is the difference between the identified income and expenses in a given period of time (Kokotec et al. 1997, p. 70).

The paper will focus on the accounting and statistical analysis of the company Reflex, d. o. o. (d . o . o. is a limited liability company, defined by the Slovenian Company Law) located in Gornja Radgona, Slovenia. Reflex is an innovative Slovenian company engaged in processing and transforming flat glass for buildings, which for almost three decades has developed and perfected its range of products and services for building construction.

Within the construction branch, it was in 2012 in the Republic of Slovenia when 1356 companies were registered. This figure also includes companies which do not employ workers. Our sample for the study consisted of at least 1 employee for the registered 549 companies and with at least 10 employees for the registered 56 companies. In 2008, a financial and economic crisis has started in Slovenia (SURS 2009), which was first reflected in the construction sector.

Due to the economic crisis, problems in business have occurred in the company Reflex, d. o. o., which has been demonstrated with lower operating income in the years 2009 and 2012. Some problems in construction companies were also pointed out by Anžlovar (2008, pp. 60–61) in his analysis, where he draws attention to the caution needed in real estate investments, insolvency investors, and financial indiscipline, because they can be fatal for the company. Also Pevcin (2009, p. ii) in his study of the production company recognizes the need for urgent reduction of costs, as demand fell markedly. In addition to the findings of Anžlovar and Pevcin, Kolar (2010, p. 24) also in his study detects a reduction in orders in the construction sector and, at the same time, a decline in real estate sales. Realistically construction in Slovenia reaches, in the period from 2005 to 2007, an average of 4% growth but during the period from 2008 to 2012 an average of 6.5% decline (Crisis Mirror 2013, p. 1). Construction is one of the most important branches because it is important from several points. When economic growth is high, construction branch is also booming; if the economy is in crisis, construction may experience the biggest problems. Construction branch has a major impact on other activities, such as transportation, manufacturing, technical business, trade, and others.

Construction also has a major impact on the number of employees, as it was in 2011, when the third branch in Slovenia employed the largest number of workers (ZRSZ 2011, p. 4). The largest drop in GDP in 2009, that is, 7.8%, was recorded in Slovenia. Domestic investment has in that year decreased by 14.4%: exports of goods fell by 19% and exports of services by 15%. Total construction activity decreased by 20%: construction work on residential buildings dropped by almost 25%, construction work on housing by 20%, and part of civil engineering works by 16.5%. The biggest problem of construction is the lack of liquidity, which occurs due to uninvestment. The main problem is the lack of payment discipline between main contractors and subcontractors (Employers' Association of Slovenia 2010, p. 8).

Company Reflex, d. o. o. was, before the economic and financial crisis, one of the most successful construction companies in the area. With the rise of the crisis, more information about the problems of business in the company has appeared.

With the aim to explain the situation and find the causes of the difficulties encountered, we decided to carry out an accounting analysis of key accounting indicators, with the emphasis on assets, and a statistical analysis of the arithmetic mean of the assets in the branch to which the company belongs.

## 2 The Results of Research and Discussion

### *2.1 Accounting Balance Sheet Analysis*

The balance sheet is the basic financial statement presenting the assets and liabilities that refer to the company's operations. Since the balance sheet is the most important statement of each company, the results and activities achieved by the companies were analyzed and compared. The most useful way of accounting analysis is a comparison of values with their historical data performance, and we do it as well in our analysis. We observed the period from 2008 to 2012.

The balance sheet is one of the basic financial statements and it is part of the annual reports of each company. Annual reports are prepared in accordance with the accounting requirements of the Slovenian Accounting Standards, which are applicable first in 2006. The data in the financial statements are based on accounting documents and books, which are consistent with the Slovenian Accounting Standards. The company has the financial year which corresponds to the calendar year (Annual Reports of the company Reflex Gornja Radgona, d. o. o 2008–2012).

Data from the company's balance sheet shows that in the period from 2008 to 2012, the amount of assets varied both positively and negatively. The company achieved the largest total assets in 2008, and in the following year, the total assets have declined. In the last fiscal year observation, the company recorded a decline in total assets, which shows the low value of the index, which is only 87.5% of total assets in 2008, as can be seen from Table 1. The individual balance sheet items will be shown in further analysis.

**Table 1** Values and indexes of total assets of the company

| Year, index | 2008 | Index 09/08 | 2009 | Index 10/09 | 2010 | Index 11/10 | 2011 | Index 12/11 | 2012 |
|---|---|---|---|---|---|---|---|---|---|
| Total assets in TEUR | 27,873 | 96.09 | 26,782 | 101.64 | 27,222 | 101.28 | 27,570 | 88.49 | 24,397 |

Source: Edited and calculated by the authors based on AJPES (Agency of the Republic of Slovenia for Public Legal Records and Related Services)

In the assets structure, we found that the share of long-term assets in the observed period decreases, while the volume of current assets increases (Annual reports of the company Reflex Gornja Radgona, d. o. o 2008–2012).

For the evaluation of intangible assets, the company disclosed the cost of purchase value or revalued purchase value/cost (Annual Reports of the company Reflex Gornja Radgona, d. o. o 2008–2012). The value of intangible assets in the company Reflex, d. o. o. since 2009 decreases. Until 2009 the company has procured a variety of software and licenses, so they have expenditure on development, and the volume of these funds by 2009 will increase considerably. From the data in Table 2, it is evident that the value and the index of intangible assets in the last 3 years in the company have fallen.

For the measurement of property, plant, and equipment of the company, accounts books show their purchase value or revalued purchase value (Annual Reports of the company Reflex Gornja Radgona, d. o. o 2008–2012).

The value of tangible assets (property, plant, and equipment) is falling (Table 3) over the years mainly due to the depreciation of equipment. Other components of property and plant are substantially unchanged.

Amortization is calculated from the original acquisition value of depreciable assets. The company uses straight-line depreciation method. Depreciation is calculated at rates that are specified for each asset and does not change during the accounting year (Annual Reports of the company Reflex Gornja Radgona, d. o. o 2008–2012).

Over the analyzed time, the company reduces the range of investment properties.

Long-term financial investments reached a substantial increase in value, in the last year of the observed period, because the index of the year 2012/2011 reached a value of 737.11, reflecting the strong increase in the high long-term loans in the last observed year, as shown by the data in Table 4.

Short-term financial investments represent short-term loans in negligible values.

The company initially valued inventories as cost, consisting of purchase price, import duties, and other charges, and direct costs of purchase. The purchase price shall be reduced by any discounts received. The quantity of units or product work in progress is valued at production cost (Annual Reports of the company Reflex Gornja Radgona, d. o. o 2008–2012). Inventories in the observation period did not change significantly, as shown by the data in Table 5.

Operating receivables are initially recognized at the amount arising from the relevant documents under the assumption that they will be paid. Operating

**Table 2** Values and indexes of intangible assets of the company

| Year, index | 2008 | Index 09/08 | 2009 | Index 10/09 | 2010 | Index 11/10 | 2011 | Index 12/11 | 2012 |
|---|---|---|---|---|---|---|---|---|---|
| Intangible assets in EUR | 91,239 | 132.95 | 121,305 | 93.17 | 113,017 | 59.25 | 66,966 | 48.67 | 32,592 |

Source: Edited and calculated by the authors based on AJPES

**Table 3** Values and indexes of tangible assets of the company

| Year, index | 2008 | Index 09/08 | 2009 | Index 10/09 | 2010 | Index 11/10 | 2011 | Index 12/11 | 2012 |
|---|---|---|---|---|---|---|---|---|---|
| Tangible assets in TEUR | 15,075 | 89.6 | 13,513 | 93.63 | 12,652 | 92.27 | 11,675 | 88.64 | 10,349 |

Source: Edited and calculated by the authors based on AJPES

receivables, which are assumed not to be settled, are considered as doubtful. However, if the legal proceedings were instituted, they are classified as doubtful debts. Operating receivables denominated in foreign currencies at the balance sheet term are converted into a local currency. Revaluation of assets is a change in their book value carried out at the end of the financial year or during the course (Annual reports of the company Reflex Gornja Radgona, d. o. o 2008–2012).

The company recorded no long-term operating receivables. Table 6 shows that the short-term receivables of the company from 2008 to 2011 increased, and they were decreased only in the last observed year. In 2012 majority share was receivables from customers, and a smaller share of the receivables was from group companies and the rest.

Cash and cash equivalents are carried at the amount arising from the relevant documents. Cash in foreign currencies are converted into local currency at the exchange rate on the date of receipt (Annual report of the company Reflex Gornja Radgona, d. o. o 2008–2012). As can be seen from the data in Table 7, the volume of cash in the period observed fluctuated.

The company has a broad share of off-balance sheet assets, which represents a danger for the company. The volume of off-balance sheet assets in the observed period decreases, but it also reduces the volume of total assets. Table 8 shows that the off-balance sheet items of the company Reflex reach in 2012 at 49% of total assets. The vast majority of these off-balance sheet items represent a mortgage on the property.

Data shown in Table 9 shows that the volume of capital in the company fluctuates; share in terms of total assets is slowly increasing. Slight increase in the proportion of capital shows that the company seeks to increase the share of equity funding.

Long-term liabilities are disclosed as long-term financial and operating liabilities. Long-term financial liabilities are long-term bank loans, while long-term operating liabilities are liabilities from finance leases, notes payable, long-term advances, securities, and deferred tax liabilities. Part of long-term liabilities, which has fallen due or will become due within 1 year, on the balance has been transferred to current liabilities (Annual reports of the company Reflex Gornja Radgona, d. o. o 2008–2012).

The volume of long-term liabilities through all the years of observation is mostly reduced. Also the share in terms of total assets is decreasing in all observed years. Data are shown in Table 10. In 2008 it reached to 27.76% of total liabilities and in

**Table 4** Values and indexes of long-term financial investments

| Year, index | 2008 | Index 09/08 | 2009 | Index 10/09 | 2010 | Index 11/10 | 2011 | Index 12/11 | 2012 |
|---|---|---|---|---|---|---|---|---|---|
| Long-term financial investments in EUR | 29,564 | 87.51 | 25,871 | 112.23 | 29,034 | 91.65 | 26,609 | 737.11 | 196,137 |
| Long-term loans in EUR | 21,362 | 82.67 | 17,660 | 75.58 | 13,347 | 82.15 | 10,965 | 1723.66 | 188,999 |

Source: Edited and calculated by the authors based on AJPES

**Table 5** Values and indexes of tangible assets of the company

| Year, index | 2008 | Index 09/08 | 2009 | Index 10/09 | 2010 | Index 11/10 | 2011 | Index 12/11 | 2012 |
|---|---|---|---|---|---|---|---|---|---|
| Inventories in TEUR | 3032 | 98.05 | 2973 | 107.26 | 3189 | 92.28 | 2943 | 118.96 | 3501 |

Source: Edited and calculated by the authors based on AJPES

**Table 6** Values and indexes of short-term operating receivables of the company

| Year, index | 2008 | Index 09/08 | 2009 | Index 10/09 | 2010 | Index 11/10 | 2011 | Index 12/11 | 2012 |
|---|---|---|---|---|---|---|---|---|---|
| Short-term operating receivables in TEUR | 8445 | 100.87 | 8519 | 111.28 | 9480 | 115.57 | 10,956 | 83.78 | 9179 |

Source: Edited and calculated by the authors based on AJPES

**Table 7** Values of cash of the company

| Year | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| Cash and cash equivalents in EUR | 380,870 | 5955 | 180,651 | 193,635 | 59,998 |

Source: Edited and calculated by the authors based on AJPES

**Table 8** Off-balance sheet assets of the company

| Year | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| Off-balance sheet assets (in EUR) | 13,264,064 | 13,443,281 | / | 13,418,729 | 11,976,261 |
| Off-balance sheet assets (in % of total assets) | 47.59 | 50.20 | / | 48.67 | 49.09 |

Source: Edited and calculated by the authors based on AJPES

**Table 9** Values of capital of the company

| Year | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|
| Capital (in EUR) | 5,276,741 | 5,733,266 | 6,037,830 | 6,052,059 | 5,551,604 |
| Capital (in % of total liabilities) | 18.93 | 21.41 | 22.18 | 21.95 | 22.76 |

Source: Edited and calculated by the authors based on AJPES

2012 to 18.23 percent. Throughout this period, the greater part of long-term liabilities were long-term financial liabilities to banks.

The index of long-term liabilities and short-term liabilities of the company achieves different values. However, when we compare the value in terms of total assets, we find that the proportion of short-term liabilities increases, which is negative for the company. This may be a sign that the company is financed by long-term assets with short-term financial resources, resulting in the company's occasional insolvency problem.

**Table 10** Values and indexes of liabilities of the company

| Year, index | 2008 | Index 09/08 | 2009 | Index 10/09 | 2010 | Index 11/10 | 2011 | Index 12/11 | 2012 |
|---|---|---|---|---|---|---|---|---|---|
| Long-term liabilities | 7,738,850 | 81.05 | 6,272,533 | 81.47 | 5,110,055 | 112.80 | 5,764,284 | 77.18 | 4,448,707 |
| Long-term financial liabilities to banks | 6,567,424 | 82.12 | 5,393,260 | 81.56 | 4,398,937 | 121.18 | 5,330,514 | 79.76 | 4,251,843 |
| Short-term liabilities | 13,931,159 | 98.91 | 13,778,844 | 110.81 | 15,267,897 | 98.62 | 15,056,930 | 93.16 | 14,027,614 |

Source: Edited and calculated by the authors based on AJPES

**Table 11** Values and percentages of assets and liabilities of the company

| Year, % | 2008 | % | 2009 | % | 2010 | % | 2011 | % | 2012 | % |
|---|---|---|---|---|---|---|---|---|---|---|
| Total assets in TEUR | 27,873 | 100 | 26,782 | 100 | 27,222 | 100 | 27,570 | 100 | 24,397 | 100 |
| Long-term liabilities in TEUR and in % in total assets | 7739 | 27.8 | 6272 | 23.4 | 5110 | 18.8 | 5764 | 20.9 | 4449 | 18.2 |
| Short-term liabilities in TEUR and in % in total assets | 13,931 | 49.9 | 13,779 | 51.4 | 15,268 | 56.1 | 15,057 | 54.6 | 14,028 | 57.5 |

Source: Edited and calculated by the authors based on AJPES

The share of short-term liabilities in the first 3 years of observation is increased. Namely, in the last 2 years, the volume of short-term liabilities of the company is reduced, but in relation to total liabilities, short-term liabilities achieve each year a higher proportion. In 2012 they reached 57.5 percentage points (Table 11).

In the observed period, the company still had a higher proportion of short-term liabilities than long-term liabilities. The major part of short-term liabilities represents operating liabilities.

The balance sheet is most associated with net profit/loss for the period. The total revenues of the company were the highest in the company's first observed year; in 2009 the company recorded the largest drop, and the volume of total revenue decreased sharply. Then the total revenue for 2 years grows slowly but is again slightly reduced in the last observed year. Total expenses were observed highest in the first year; in 2009, the same as income, they decreased much lower. By the next year, they regrow; they have been increasing in the last observed year, mainly due to a sharp increase in the financial expenses of the company. In the last observed year, for the first time, the total expenses exceed the total revenue, so the profit or loss for the first time is negative.

## *2.2 Comparison of Balance Sheet Assets of Construction Company with Data in Construction Branch*

Table 12 shows a comparison of growth/decline in volume of each elementary item in the balance sheet. In the above table, we analytically compared the movement of items of the company Reflex in relation to construction branch at the beginning and at the end of the observation period.

The volume of total assets in activity declined as well as in the company. When we compare value of index (2012/2008 = 87.5) for company and construction

**Table 12** The main categories in the balance sheet of the company and of the construction branch

| Year, index | 2008 | | 2012 | | Index 2012/2008 | |
|---|---|---|---|---|---|---|
| Categories in EUR | Reflex | Construction branch | Reflex | Construction branch | Reflex | Construction branch |
| Total assets | 27,873,194 | 188,481,517 | 24,389,579 | 162,565,954 | 87.50 | 86.25 |
| Long-term assets | 15,650,487 | 67,215,801 | 11,257,383 | 52,940,502 | 71.93 | 78.76 |
| Short-term assets | 12,189,337 | 119,757,154 | 13,115,448 | 108,761,983 | 107.60 | 90.82 |
| Short-term operating receivables | 8,445,453 | 74,526,797 | 9,178,821 | 64,213,536 | 108.68 | 86.16 |
| Cash and cash equivalents | 380,870 | 7,402,482 | 59,999 | 7,919,683 | 15.75 | 106.99 |
| Off-balance sheet assets | 13,264,064 | 20,958,118 | 11,976,261 | 24,666,293 | 90.29 | 117.69 |
| Total liabilities | 27,873,194 | 188,481,517 | 24,389,579 | 162,565,954 | 87.50 | 86.25 |
| Capital | 5,276,741 | 51,432,863 | 5,551,604 | 53,810,009 | 105.21 | 104.62 |
| Long-term liabilities | 7,738,850 | 28,392,993 | 4,448,708 | 17,621,224 | 57.49 | 62.06 |
| Short-term liabilities | 13,931,159 | 103,289,542 | 14,027,614 | 87,664,406 | 100.69 | 84.87 |

Source: Edited and calculated by the authors based on AJPES

branch index (2012/2008 = 86.25), we see that in the overall activity, the amount of total assets is even more reduced than in the company.

However, the data shows that the company strongly reduced its long-term assets at only an index value of 108.68 in 2012, while the branch index reached the highest value (78.76).

The company's volume of short-term assets in the observed period increased and reached an index value of 107.6 within the branch; the volume of short-term assets declined, since 2012/2008 index reaches a value of 90.82.

When we observe the movement of short-term operating receivables, we find a weak side of the observed company, since its claims grew, reaching an index value of 108.68, while within the branch its claims fell, reaching an index value of 2012/2008 = 86.16.

Cash and cash equivalents in the branch are managed to increase, reaching an index value of 106.99, while the company had a decreased volume of cash, and it reaches an index value of 2012/2008 = 15.75.

The consequence of such reduction is the current insolvency of the company, which may also shut down the production, if it does not succeed in time to provide raw materials.

The company's off-balance sheet assets have decreased by nearly 10 percentage points; in the branch, the volume of off-balance sheet assets increased, and it reaches an index value of 117.69. However, we must not forget that the volume of assets in the company fell by 13.5 percentage points.

The company's volume of equity in the observed period increased and thus reached an index of 2012/2008 = 105.21. It has also increased the volume of equity in the branch and reached an index value of 104.62.

Long-term liabilities in the observed period dropped significantly. As shown in Table 12, the company achieved an index value of 2012/2008 = 57.49 which was within the result for construction branches of 62.06.

Short-term liabilities of the company in the observed period remained almost unchanged since the index value of 100.69. The volume of short-term liabilities in branches successfully reduced and thus achieves an index value of 84.87.

The company has increased the volume of short-term financial liabilities which mainly consist of financial liabilities to banks.

Whereas the balance sheet is also linked to profit/loss for the period, we present greater impacts of the revenues and expenses of the company on its operating profit. The company Reflex reduced business revenues more than the construction branch (Table 13). The construction branch has managed to reduce its operating expenses to a greater extent than its operating income. We analyzed in detail the individual expenditure in the company Reflex, d. o. o, and found that expenses are less declined, mainly on the following items: cost of goods, material, and services and greater reduction in expenses the company recorded in labor costs (Table 13).

**Table 13** Revenues and expenses of the company and the construction branch

| Category/year, index | | 2008 | 2012 | Index 2012/2008 |
|---|---|---|---|---|
| Business revenues in EUR | Reflex Gornja Radgona, d. o. o | 36,692,252 | 30,028,490 | 81.84 |
| | Construction branch | 219,473,517 | 185,728,814 | 84.62 |
| Business expenses in EUR | Reflex Gornja Radgona, d. o. o | 35,033,523 | 29,780,438 | 85.01 |
| | Construction branch | 211,406,578 | 170,692,270 | 80.74 |
| Cost of goods, material and services | Reflex Gornja Radgona, d. o. o | 23,164,710 | 21,031,752 | 90.79 |
| | Construction branch | 152,264,348 | 114,136,016 | 74.96 |
| Labor costs | Reflex Gornja Radgona, d. o. o | 8,539,282 | 5,266,146 | 61.67 |
| | Construction branch | 48,638,787 | 45,831,368 | 94.23 |

Source: Edited and calculated by the authors based on AJPES

## *2.3 Statistical Research of Construction Company Assets*

In the following we want to verify the hypothesis that the volume of total assets in companies within the construction branch is significantly increased in the period 2008–2012.

It is very difficult to claim that the company or the branch is recovering if the volume of total assets in the balance sheet is decreasing. On a sample of 54 companies, we will check the movement of assets in branch, which the analyzed company belongs (Reflex).

In the sample, we have companies that in 2012 employed ten or more workers. In parallel to these figures for those companies, we found further information of their total assets in 2008.

We have identified the null hypothesis $H_0$ and the alternative hypothesis $H_1$. In an alternative hypothesis, we wanted to check whether in the construction branch, despite the economic crisis from 2008 to 2012, the volume of total assets has been increased. Because, in the sample chosen in 2008, the average value of company total assets is 1,283,988 €, we have identified the following null hypothesis and the alternative hypothesis:

$H_0$: $M \leq$ 1,283,988 €
$H_1$: $M >$ 1,283,988 €

The null hypothesis was assumed that the company, on average, in 2008 had the volume of total assets equal to or less than 1,283,988 € ($H_0$: $M \leq$ 1,283,988). We used the following variables: "*SR 2008*, the volume of total assets in 2008," and "*Sred 2012*, the volume of total assets in 2012."

However, since the goal of every company is to expand the volume of total assets and it is also an indicator of the performance of companies or branch, in the alternative hypothesis, we expected that in 2012 the volume of total assets in the

construction branch was increased ($H_1$: $M > 1{,}283{,}988$). If we can confirm that this could mean the recovery of the construction branch, thus, basing on the selected sample, we can confirm or reject the hypothesis of recovery of a branch.

With the analysis of arithmetic mean of the total assets of Slovenian companies from the construction branch, which in 2012 had ten or more employees, we found that the volume of total assets increased on average, in the years we observed.

However, with the statistical method of analysis, *t*-test of equality of mean (one-sample statistics) in Fig. 1, calculated with program SPSS, based on the selected sample, we cannot reject with sufficient accuracy the null hypothesis $H_0$: $M \leq 1{,}283{,}988$. Based on the results of the analysis of the arithmetic mean of total assets in 2012, we get a case of a bilateral test value: Sig (two-tailed) = 0.871.

In our case we have to use a one-sided test; therefore, the exact level of risk is only half the precise degree of risk involved in case of a bilateral test: Sig (one-tailed) = 0.436.

But despite the one-sided test, we cannot reject the null hypothesis because the risk level is still higher than 0.05. Therefore, we accept the null hypothesis. This means that an average Slovenian company in the construction branch in 2012 achieves the same volume of total assets as in 2008 or less.

The same is confirmed by the value of *t*-statistics, since the lower threshold $t\,2012 = 0.164$. Because it does not fall in the critical area of student's distribution, we must accept the null hypothesis and the conclusion that Slovenian companies in 2012 have an average amount of total assets as it accounted in 2008.

So our analysis in this segment does not support the argument that the economy within the construction branch is recovering and that it could be with sufficient accuracy demonstrated and confirmed. In any case, we must, by using the ratings,

**T-Test**

[DataSet1]

**One-Sample Statistics**

| | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| SR 2008 | 54 | 1283988,17 | 4133551,095 | 562505,056 |
| Sred2012 | 54 | 1367290,00 | 3738854,471 | 508793,649 |

**One-Sample Test**

| | Test Value = 1283988 | | | | | |
|---|---|---|---|---|---|---|
| | | | | | 95% Confidence Interval of the Difference | |
| | t | df | Sig. (2-tailed) | Mean Difference | Lower | Upper |
| SR 2008 | ,000 | 53 | 1,000 | ,167 | –1128242,10 | 1128242,43 |
| Sred2012 | ,164 | 53 | ,871 | 83302,000 | –937208,82 | 1103812,82 |

**Fig. 1** The values of arithmetic mean of the total assets. Source: Žerdin 2015

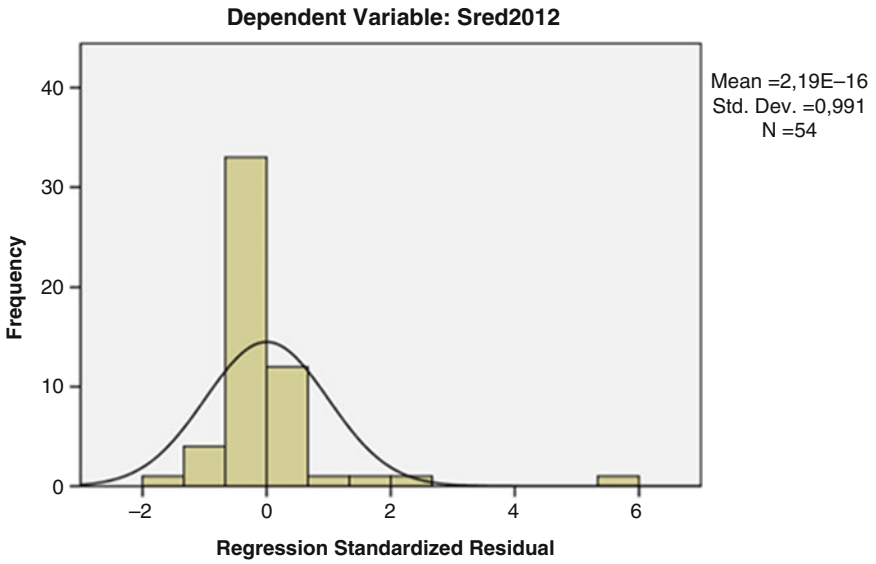


**Fig. 2** The distribution value of total assets in 2012. Source: Žerdin 2015

be aware of the limitations of our sample because the results of the analysis are relating to the companies in the branch that employ, in Slovenia in 2012, at least ten workers. The sample upon which we carried out the analysis is fairly small, and the standard error is quite high.

Figure 2 shows the distribution of total assets of companies from a statistical sample. From the graphs it is evident that the distribution is not completely normal, but it is close to normal distribution, and such analysis is suitable for the chosen pattern.

Summarizing all the above analysis, despite the suitability of the selected sample, as evidenced in Fig. 2 and the data in Fig. 1 with the analysis of arithmetic mean of the total assets in the construction branch, we cannot confirm the hypothesis that the volume of total assets in the construction branch increases.

The volume of assets is not yet growing at such a scale that it would be able to confirm with sufficient accuracy, so we cannot talk about recovery within the analyzed branch. Companies within the specified branch in 2012 achieved an average only equal to or less than the volume of total assets in 2008.

## 3 Conclusion

The volume of assets in the company is fluctuated in the last observed year and has reached the lowest value (index 2012/201 = 88.49). The volume of assets in 2012 does not even reach the value of assets in 2008 and the index 2012/2008 = 87.53.

The company's tangible assets fell sharply. Current assets increased, mainly as operating receivables since the company in 2012 recorded more than in 2008, which reaffirms that we have, in our country, lack of payment discipline. Based on the data from the company, we can claim that payment indiscipline is still deepening, but more encouraging data come within the construction business area, as an index of short-term operating receivables for 2012/2008 = 86.16, compared with value for Slovenia as a whole of 88.71.

With statistical analysis of total assets in the construction branch, we found that the volume of total assets does not increase to such an extent that it could be sufficiently precisely confirmed, so we cannot talk about recovery within the analyzed activities.

After reviewing the assets in the balance sheet, we find that the company is poorly managed by its own assets, both total and fixed assets. So it is necessary to improve the management of assets. The company has high inventories, which bind the money and the high-operating receivables. Consequently, these are high obligations to suppliers, and because it is difficult to obtain financing to meet its obligations, the company must raise expensive loans. In that case the company managed to reduce inventory and operating receivables, which would require less short-term bridge loans for which interest is paid, thus increases financial expenses, which have caused negative net outcome.

The limitation of research represents the number of construction companies with final construction work in a sample of companies. On the other hand, on partial accounting analysis, we studied only assets in the balance sheet, but not other economic categories in the financial statements. Based on these limits, after a review of assets in the balance sheet of Reflex, we suggest improving the management of funds, in both long-term and the short-term types, especially inventories and operating receivables.

The volume of inventories and their management are of major importance in the company, both for operating and for further assessment of value of the company. Essential factors in the management of inventories are (Brigham and Ehrhardt 2008, p. 788):

- Ensuring the availability in the execution of certain operations
- Reducing the costs of purchasing and storing inventories to a minimum

Companies tend to sold directly for money, but competition and market conditions are forcing them to sell on credit. It means that at the supply of the product, it does not receive payment immediately, thus resulting to receivables due from customers. Operating receivables management is depending on the selected credit policy; surveillance is also important. Credit policy can have a significant impact on sales and thus on the performance of the company. Key factors for the credit policy are as follows (Brigham and Ehrhardt 2008, p. 790):

- Payment schedules: Shorter payment periods reduce receivable turnover ratio but discourage buyers, significant deviations in relation to the branch, company cannot afford.

- Discounts with prepayments lowering the price attract buyers, reducing days of receivable turnover ratio; we must also take into account the price of discounts.
- Credit standards: Lower standards increase sales but also increase bad debts.
- Recovery policy: Stricter policy reduces receivable turnover ratio but may discourage a new buyer.

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