

# Hans Nielsen Hauge

Entrepreneur, Banker & Industrialist



Vegard Tafjord Rødal

Andreas Kiplesund



Norges Handelshøyskole

Bergen, fall 2009

Master of Science in Economics and Business Administration

Master Thesis within the main profile of Financial Economics

Thesis supervisors: Ola H. Grytten and Magne Supphellen

Hans Nielsen Hauge

Entrepreneur, Banker & Industrialist

Andreas Kiplesund and Vegard Tafjord Rødal

This thesis was written as a part of the master program at NHH. Neither the institution, the advisors, nor the censors are – through the approval of this thesis – responsible for neither the theories and methods used, nor results and conclusions drawn in this work.

## Table of content

Abstract.....	7
1. Introduction .....	8
1.1 Background.....	8
1.2 Problem defined.....	8
1.3 Scope and limitations.....	9
1.4 Structure .....	9
2. Theory.....	10
2.1 Religious movements.....	10
2.1.1 Calvinism.....	10
2.1.2 Puritanism .....	11
2.2 Entrepreneurial theory .....	13
2.2.1 Causation .....	13
2.2.2 Effectuation .....	14
2.2.3 Focus .....	15
3. Data .....	17
3.1 Presentation of data.....	17
3.2 Validity of data .....	19
3.3 Reliability of data.....	19
3.4 Limitations and possibilities .....	20
4. The economic life of Hans Nielsen Hauge .....	21
4.1 Hauge's life and work.....	21

4.2	Industrial projects, merchant- and shipping activity.....	24
4.2.1	Svanøe farm.....	24
4.2.2	The residence of Mr. Loose.....	25
4.2.3	The mill in Aadalen.....	26
4.2.4	The paper factory at Fennefoss.....	26
4.2.5	The brick factory at Eeg, Kristiansand.....	27
4.2.6	The printing house in Kristiansand .....	28
4.2.7	The copper mine in Vingelen, Østerdalen .....	30
4.2.8	Hauge’s merchant activity .....	31
4.2.9	Hauge’s shipping activity.....	33
4.2.10	The paper factory at Eiker .....	34
4.3	The monetary system and economic conditions at the time .....	35
4.4	The frequency & scale of economic activity .....	37
4.4.1	The frequency of economic activity .....	37
4.4.2	The scale of economic activity.....	42
5.	Analysis.....	48
5.1	Methods of analysis .....	48
5.2	Formulation of relevant hypotheses.....	49
5.2.1	The Motivation hypothesis.....	49
5.2.2	The Sources of Motivation hypothesis.....	50
5.2.3	The “Network of Friends” hypothesis.....	50

5.2.4	The Degree of Involvement hypothesis .....	51
5.2.5	The Frequency hypothesis .....	52
5.2.6	The Banker hypothesis.....	52
5.2.7	The Large-scale Investor hypothesis.....	53
5.3	Testing of hypotheses.....	54
5.3.1	The Motivation hypothesis.....	54
5.3.2	The Sources of Motivation hypothesis.....	56
5.3.3	The Network of Friends hypothesis .....	59
5.3.4	The Degree of Involvement hypothesis .....	61
5.3.5	The Frequency hypothesis .....	64
5.3.6	The Banker hypothesis.....	67
5.3.7	The Large-scale Investor hypothesis.....	69
6.	Conclusion .....	74
	References.....	76
	Litterature .....	76
	Articles.....	76
	Web pages .....	77
	Calculations.....	78
	Appendix.....	79
	Table A1 – Source data & calculated figures – Part 1 .....	79
	Table A2 – Exchange rates .....	79

Table A1 – Source data & calculated figures – Part 2 .....	80
Table A2 – Exchange rates .....	80
Table A3 – Complete dataset – Part 1 .....	81
Table A3 – Complete dataset – Part 2.....	82
Table A4 – Time series of Investments & Financing – Hauge .....	83
Table A5 – Time series of Investments & Financing – Haugeans.....	83
Table A6 – Time series of Investments & Financing – All data.....	84

## **Abstract**

This thesis investigates how Hauge acted as an entrepreneur, banker and industrialist. We take a closer look at his economic life including the scale and frequency of his economic activity. We are able to draw some interesting inferences relating to this by analyzing a set of data we collected.

Hauge is mostly known for his preaching activity, but as an entrepreneur also accredited a significant role in the early industrialization of Norway. He was involved in several industries such as: paper factories, mills, dock yards, farms, mining and printing. The thesis takes a closer look at a selection of these industries and businesses. We conclude that his involvement in different elements of the start-ups depended on how critical this was to the success of the business.

We determine that he was inspired by international religious currents, in particularly Puritanism. We conclude that this was important in the sense that it drove his motivation for job- and value creation in contemporary Norway.

Hauge was persecuted by the Norwegian authorities, and had a hard time keeping up the frequency of his economic activity after he was imprisoned in 1804. Still, he was able to conduct some business while imprisoned, and one may wonder how much he could have achieved, had the persecution not taken place.

We conclude that Hauge and his followers were of the largest investors in Norway, at the time their activity peaked, namely 1804 and adjacent years. Hauge also fulfilled a role as a financial intermediary to ensure financing for his business ideas relating to industrial start-ups, in the absence of a functioning banking sector at the time.

# 1. Introduction

## 1.1 Background

Hans Nielsen Hauge is a historical figure in Norway. Most Norwegians who have completed a class in Norwegian history will draw a familiar face when his name is mentioned, and people who take an interest in history will probably be able to reproduce the essence of his life and work. Still, there is in our opinion a common misconception about Hauge. Too many too often claim that his life and work essentially dealt with travelling across Norway by foot, while singing and knitting in order not to waste any precious time, and preaching the gospel to listeners in the different places he came to.

Though this description is not a false one, we find it highly stigmatizing and not a fair treatment of Hauge's heritage. One of Norway's most well known writers, Arne Garborg, once wrote that "...it was Hauge that created the 19<sup>th</sup> century in Norway<sup>1</sup>." In this master thesis, we intend to illustrate that Hauge was in fact an influential personality in the industrialization of Norway, and that he along with his preaching activities conducted business at both a significant scale and frequency.

## 1.2 Problem defined

Our interest in innovation and entrepreneurship motivated a deeper inquiry into Hauge's economic life when we learned from our thesis supervisors that Hauge was a significant entrepreneur and merchant in the early 19<sup>th</sup> century. In our research we discovered that while quite a lot has been written of Hauge's role as a layman preacher, little work has been done to uncover his significance as an entrepreneur and industrialist.

The sources we have come across that best describes Hauge's economic activity are Dagfinn Breistein's book, *Kjøbmand i Bergen (Merchant in Bergen)*, and letters of correspondence sent by Hauge. The former is more of a descriptive biographical work

---

<sup>1</sup> Sejersted, F., Segelcke, N., 1992, Norge ad notam p 42, Typografisk, Oslo, Norway, ISBN 825880759



which describes transactions conducted by Hauge, but does little to analyze the extent of his entrepreneurial and merchant activities. The latter are primary sources which to an even lesser degree draws a clear picture of Hauge's aggregated economic efforts.

Thus, our problem defined is:

What was the motivation for and extent of Hauge's economic activity?

1. What were the sources and significance of religion and faith in Hauge's entrepreneurial motivation?
2. What were the nature, frequency and scale of Hauge's economic activity?

### **1.3 Scope and limitations**

We have already established that an important part of Hauge's life and work deals with religion, both his own faith and his attempt to spread his beliefs. Still, the religious aspects of Hauge's life will in this thesis only be subject of analysis to the extent that it influenced his economic life. Stated differently, we are not concerned with Hauge's religious activities, merely his religious motivation for conducting business.

In the analysis of Hauge's economic activity it is impossible not to come across other historically significant Haugeans, as many of these played imperative parts in the establishments of businesses that was the outcome of Hauge's many business ideas. Nevertheless, we will only deal with other Haugeans to the degree that their own activities were directly intertwined with those of Hauge.

### **1.4 Structure**

In section 2, we will present the relevant theory for the analyses later conducted. In section 3 we present the data we have used. Section 4 constitutes the descriptions of Hauge and his activities, used in the establishment of hypotheses. The hypotheses are formulated and tested in the analyses of section 5. In section 6 we will discuss our empirical findings, challenges for further work, and draw a conclusion based on our problem defined. While working on this thesis we have applied both the inductive- and the deductive research methods.

## 2. Theory

### 2.1 *Religious movements*

#### 2.1.1 Calvinism

Calvinism originates in Geneva, Switzerland. Jean Calvin was the theologian who formulated this theological movement. The result of his work was that he left France and moved to Geneva. Not everything in Calvinism comes from Calvin. Theologians like Theodore Beza, Franciscus Gomarus and the founder of the Presbyterian Church, John Knox have also influenced Calvinism<sup>2</sup>. Calvinism has had significant impact in countries like Scotland, the Netherlands and Germany. In Scandinavia, Sweden is the country which was most strongly influenced by this theological movement.

Jean Calvin stated that the concept of common sense was linked to the ascetic tradition. This statement was also supported by Augustine, bishop of Hipporegius. Success in business and trade was evidence that one was part of “the chosen circle” according to Calvin. However, living a luxurious life and wasting money was looked upon as the source of all evil. An example of businessmen who were inspired of Calvinism, were qualified and successful Swiss watchmakers that were focused on accuracy, diligence and economic advance<sup>3</sup>. Calvinism is also known for strong work ethics<sup>4</sup>.

Jean Calvin argued against the opinion that people should not charge interest on debt. Calvin wrote to his friend, Claude de Sachin, and said that the: “...dismissed the argument, based upon the writings of Aristotle, that it is wrong to charge interest for money because money itself is barren.” He said that the walls and the roof of a house are barren, too, but it is permissible to charge someone for allowing him to use

---

<sup>2</sup> Newadvent, N/A, Calvinism, <http://www.newadvent.org/cathen/03198a.htm>, 16.12.09

<sup>3</sup> Horgen, S.A., Europa, [http://aitel.hist.no/~svendah/horg1\\_com/fag/kultur/europa.html](http://aitel.hist.no/~svendah/horg1_com/fag/kultur/europa.html), 02.12.09

<sup>4</sup> Bowen, K., 05.04.09., Berlin exhibit spotlights far-reaching influence of church reformer Calvin, <http://www.dwelle.de/dw/article/0,,4149744,00.html>, 17.12.09

them<sup>5</sup>. Calvin claimed that money should be lent to people that really needed them, like people in dire need without any chance of covering interest charges. For debt to people in more of a normal financial state, he suggested that a modest interest rate of five percent should be applied<sup>6</sup>.

### **2.1.2 Puritanism**

Puritanism originates from England in the 1560s and wanted to reform the Church of England beyond the limits established by Queen Elizabeth 1<sup>7</sup>. Puritans claimed that the Church of England did not take the reformation far enough, and that the English reformation therefore was incomplete.

These doctrines had a significant impact on the way they lived their lives. Puritanism was a movement of religious protest, and inspired by a driving zeal and an exalted religious devotion that their enemies called fanaticism and sectarian. They were also accused of “epitomizing the holier than thou attitude, and those who were zealous for extreme ascetic piety. This is a caricature of Puritanism. As a matter of fact, Puritanism is far the opposite.”<sup>8</sup> A puritan is described as a person that with thought, word and work want to pursue a modest and simple lifestyle. They also set high standards of morality in living their lives. The Puritan’s work ethics can be described in three words: Redeem the time. This implies that Puritans<sup>9</sup>:” ...order [their] daily life in accordance with godly principles and for maximum effectiveness. One of the Puritans' favorite epithets was:

---

<sup>5</sup> The letter is quoted in Le Van Baumer, Franklin, editor (1978). Main Currents of Western Thought: Readings in Western Europe Intellectual History from the Middle Ages to the Present. New Haven: Yale University Press. ISBN 0300022336

<sup>6</sup> See Haas, Guenther H. (1997). The Concept of Equity in Calvin’s Ethics. Waterloo, Ont., Canada: Wilfrid Laurier University Press. ISBN 0889202850

<sup>7</sup> Miller, P., 2003, Puritans and Puritanism, Dictionary of American history, <http://www.encyclopedia.com/doc/1G2-3401803470.html> 03.12.09

<sup>8</sup> McMahon, Dr.C.M.,2009, Puritan Roots: A Brief Sketch of the Values of Puritanism, <http://www.apuritansmind.com/PuritanArticles/PuritanRoots.htm> , 16.12.09

<sup>9</sup> Ryken, L., 01.01.09, The Original Puritan Work Ethic, <http://www.ctlibrary.com/ch/2006/issue89/7.32.html>, 16.12.09

Well-ordered. Their opponents nicknamed them disciplinarians.”

It has been written that<sup>10</sup>: “The large number of people who ascribed to the lifestyle of the Puritans did much too firmly establish a presence on American soil. Bound together, they established a community that maintained a healthy economy, established a school system, and focused an efficient eye on political concerns. The moral character of England and America were shaped in part by the words and actions of this strong group of Christian believers called the Puritans.”

Another name for Puritans is Dissenters. Dissenters were not allowed to have a profession that required official religious conformity. Consequently, they were often involved in new industries, manufacturing and trade economy<sup>11</sup>. In the beginning they focused on export and import, and they also became eager colonials. There was a group of Puritans that settled down in the Boston area, and they developed trade between North America and the UK. This arrangement greatly contributed to the wealth of the Puritans back in England<sup>12</sup>.

Money itself was not evil, argued the puritans. But they were very suspicious of wealth. They were afraid of the: “tendency of money to replace God as the object of ultimate devotion”<sup>13</sup>. Since the Puritans were skeptical to building up fortunes, they eagerly reinvested their money into new businesses.

---

<sup>10</sup> Kizer, K., N/A, Puritans, <http://www.nd.edu/~rbarger/www7/puritans.html>, 16.12.09

<sup>11</sup> Studyworld, N/A., Puritan, Cavalier, and Frontier Cultures' Contributions To the American Character, <http://www.studyworld.com/puritan.htm> , 16.12.09

<sup>12</sup> Economicexpert.com, <http://www.economicexpert.com/a/Puritans.htm> , 05.12.09

<sup>13</sup> Ryken, I., 2009, That Which God Hath Lent Thee , The Puritans and Money <http://www.apuritansmind.com/Stewardship/RykenLelandPuritansAndMoney.htm>, 16.12.09

## **2.2 Entrepreneurial theory**

In the article *Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency* by Saras D Sarasvathy<sup>14</sup>, she is discussing two sources of motivation for entrepreneurs founding new companies. The two sources are the causation and the effectuation processes. Some scholars may argue that the causation process traditionally has been the most frequent source of motivation, but Sarasvathy argues that we may be experiencing a shift towards a more frequent use of the effectuation process as a source.

### **2.2.1 Causation**

The article describes the causation process as a process where you "take a particular effect as given and focus on selecting between means to create that effect".

The article lists four bullet points that describes the anatomy of a decision in a causation process<sup>15</sup>:

- "A given goal to achieve or a decision that you have to make. Those are usually well structured and specific.
- A set of alternative means or causes. Those can be generated through the decision process.
- Constraints on possible means which usually are imposed by the environment.
- Criteria for selecting between the means that often implies maximization of expected return in terms of the predetermined goal."

---

<sup>14</sup> Sarasvathy, S.D, Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency, Academy of Management Review 2001 Vol 26 No2. 243-263

<sup>15</sup> Sarasvathy, S.D, Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency p 245, Academy of Management Review 2001 Vol 26 No2. 243-263

An illustrative example on the causation process is i.e. asking a chef to make the best meal possible. He would then go out, search for the ingredients he felt he was in need of and start cooking the meal he had set his mind on.

### **2.2.2 Effectuation**

The second motivation process Sarasvathy describes is the effectuation process. This is a process where you take a set of means as given and focus on selecting between possible outcomes that may be created with that specific set of means.

The anatomy of this effectuation process consists of<sup>16</sup>:

- “A given set of means. Those means usually consist of relatively unalterable characteristics/circumstances of the decision maker.
- A set of effect or possible operationalizing of generalized aspirations mostly generated through the decision process.
- Constraints on possible effects which usually are imposed by the limited means as well as by the environment and its contingencies.
- Criteria for selecting between the effects which are usually a predetermined level of affordable loss or acceptable risk related to the given means.”

We can use the same example as the one used to explain the causation process to exemplify the effectuation process. Imagine the same chef as above, but now you are asking him to make the best meal he possibly can with the ingredients that are already in place in the kitchen.

The effectuation process may provide the result that several different types of businesses are established as one goes along with the initial business idea. One may in some cases in fact discover that the reshaped business idea is better than the initial one. The article *Outlines of behavioral theory of the entrepreneurial firm* by Dew et.al

---

<sup>16</sup> Sarasvathy, S.D, Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency p 249, Academy of Management Review 2001 Vol 26 No2. 243-263

describes the effectuation process in more detail. It states that "Effectuation does not assume pre determined and clearly specified Goals. Goals emerge as part of negotiations with stakeholders..."<sup>17</sup>. These stakeholders negotiations not only result in new goals and reframe the initial set of opportunities the firm seeks to realize, but also explicitly reshape and transform the environment in which the organization operates.

The effectuation process is described as a process where you see the world as open and still in the making. The article states that effectuators see a genuine role of the human action; actually they see both firms and markets as human made artifacts and not as a result of broad historical, economic, or technological forces. It also describes effectuators as people that rarely see opportunities as given outside of their control, but as people that discover their own opportunities.

### 2.2.3 Focus

There is a different focus in the two processes as sources of motivation. The dissertation describes the differences in more detail<sup>18</sup>.

1. **"Affordable loss rather than expected returns:** Causation: how to maximize the potential return for a decision by selecting optimal strategies. Effectuation: predetermines how much loss is affordable and focuses on experimenting with as many strategies as possible with the given limited means. The effectuator prefers options that create more options in the future over those that maximize returns in the present.
2. **Strategic alliances rather than competitive analysis:** Causation models, such

---

<sup>17</sup> Dew, N., Read, S., Sarasvathy, S.D., Wiltbank, R., 31 Januar 2008, Outlines of a behavioral theory of the entrepreneurial firm p 43, Journal of Economic Behavior & Organization, Vol 66 (2008) 37-59

<sup>18</sup> Sarasvathy, S.D, Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency p 252, Academy of Management Review 2001 Vol 26 No2. 243-263

as the porter model in strategy, emphasize detailed competitive analyses.  
Effectuation: emphasizes strategic alliances and pre commitments from stakeholders to reduce and/or eliminate uncertainty and to erect entry barriers.

3. **Exploitation of contingencies rather than exploitation of preexisting knowledge:** Causation model: when there is preexisting knowledge, such as expertise in a particular new technology forms the source of competitive advantage, causation models might be preferable: Effectuation: better for exploiting contingencies that arose unexpectedly over time
4. **Controlling on unpredictable future rather than predicting an uncertain one:** causation process focus on the predictable aspects of an uncertain future. The logic for using causation process is: To the extent that we can predict the future, we can control it. Effectuation: focus on the controllable aspects of an unpredictable future: the logic for using effectuation process: To the extent that we can control the future, we do not need to predict it. For example instead of defining a market as the universe of all possible customers as Kotler defines it, and effectuator would define his or her market as a community of people willing and able to commit enough resources and talents to sustain the particular enterprise.”

To sum up, there are two processes functioning as potential sources of motivation for entrepreneurs .Sarasvathy argues that the effectuation process may becoming the more frequent source, but underlines that the effectuation process is not a better source than the causation process per se.



## 3. Data

### 3.1 *Presentation of data*

We collected the data by examining a substantial number of the sources available on Hans Nielsen Hauge. Our starting point was to conduct a search in BIBSYS using “Hans Nielsen Hauge” as our search word. A long list of vast resources emerged. However, by taking our time in going through the findings we reached the conclusion that our main sources of data would be letters written by and to Hans Nielsen Hauge and a biography by Dagfinn Breistein. The biography is titled *Hans Nielsen Hauge – Kjøbmand i Bergen*, and covers most all of Hauge’s entrepreneurial- and trade activities.

By registering transactions, we created a dataset in Microsoft Excel in the form of debit and credit entries. Most of the entries are single matching one transaction i.e. debt taken on by Hauge himself where the usage of the funds was unspecified. However, some of the transactions we discovered were well described in detail, and allowed us to register both i.e. the debit entry of an investment in a fixed asset as well as the credit entries of the financing, consisting of several sources of debt and equity. In the end we had completed a total of 95 entries reflecting transactions that had taken place between 1799 and 1823. Considering the fact that the current bookkeeping standard was far less comprehensive compared to today’s standard, and the fact that Hauge was lagging behind even according to contemporary standards, we assessed this as quite a good basis for conducting analyses in order to answer our problem defined.

The majority of the transactions could be traced back to specific dates. Nevertheless, for a substantial number of the transactions we were only able to trace the year of the transaction. The latter as well as the fact that the total number of entries was less than 100 forced us to create time series of annual data as opposed to series of shorter intervals. Due to a lack of information about the completeness of the majority of the transactions, and the linkage between registered transactions (i.e. an entry describes Hauge taking on debt, but does not specify the intended usage, however, the intended usage might as well have been an investment registered in our dataset), we concluded that we had to look at aggregated investments and financing in our analyses of time

series. We were able to classify each entry as one either linked to Hauge or to a Haugean or both. We were also able to classify each entry as either an investment in a loan or a fixed asset, or as either debt- or equity financing. Because six of the entries in our dataset were initiated, but not completed, we also classified each entry either as completed or not completed.

During the time of Hauge's active period the monetary authorities in Norway both changed the monetary unit and the value of the unit several times to try to cope with the contemporary financial- and monetary crises. We decided to deal with this issue by converting all amounts in riksdaler courant (1795-1813), rigsbankdaler (1813-1816) and speciedaler (1816-1875) respectively into NOK by using information found at Norges Bank's website<sup>19</sup>. From 1795 to 1813 both riksdaler courant and riksdaler species were used as monetary units. Our sources do not specify which of the two units' transactions were conducted in. However, we do find it highly likely that all entries should be taken as being in riksdaler courant, and that is what we chose to do. Hence, later in the thesis, references to riksdaler (RD) is more specifically references to riksdaler courant.

The next step was to convert the NOK amounts into 2008 NOK amounts. To do this we simply used the price calculator available at Norges Bank's website to calculate the inflation from each individual transaction year and till 2008. Subsequently, we multiplied each individual amount by the respective inflation factor. Since inflation does not entirely reflect the dramatic change in welfare from the time of Hauge's work and until today, we realized that we had to create a figure supplementing the 2008 NOK amounts.

Therefore, we created a proxy figure which better illustrated the size of each entry amount at the time, and the accumulation of wealth it took to conduct the corresponding transaction. In a Norges Bank research paper<sup>20</sup> we found statistics on annual wages in Norway. More specifically we found the average of nominal wages across a broad section of industries including both public and private industries. We converted these

---

<sup>19</sup> Norges Bank, 2006, [http://www.norges-bank.no/templates/article\\_25989.aspx](http://www.norges-bank.no/templates/article_25989.aspx) , 10.11.09

<sup>20</sup> Eitrheim, Ø., Klovland, J., Qvigstad, J.F., 2007, Historical Monetary Statistics for Norway – Part II

figures into 2008 NOK amounts and divided each 2008 NOK entry amount by its respective 2008 NOK annual wage amount. The result was a proxy figure that we called “Annual Wage Equivalent” (AWE). The AWE figure should be interpreted as how many years it would take to earn the entry amount for the average Norwegian employee at the time of the transaction. The data may be viewed in the Appendix (ref. A1-3).

### **3.2 Validity of data**

Throughout all his life, Hauge lived a life characterized by a high sense of morality, and we believe that this also to a large extent applies to other Haugeans. This provides us with confidence that each individual data item we have registered is likely to be valid.

The problem is rather the question of the completeness of the dataset. We suspect that we may be missing corresponding entries for a substantial part of the entries registered in our dataset. This is due to the fact that in many cases the sources simply state that Hauge has taken on debt and do not specify the usage of funds. In other words there may be related investment entries missing from our dataset. In some cases it is the other way around. An investment is described, while the financing is not specified, however, this is less frequent. We believe that this problem applies more to the investment side than to the financing side, because even though Hauge practiced a poor accounting standard, he was very peculiar in taking note of the money he owed. Still, this indicates that the high leverage may be somewhat overstated. Hauge may have been less consistent in registering equity, i.e. in the form of gifts and heritage, than he was in registering his debt.

### **3.3 Reliability of data**

We assess that the reliability of the data is strong. The letters are first-hand resources in the sense that the authors of the letters also were the people conducting the described transactions. This means that we can assume that transactions were registered in a relatively consistent and uniform way, as opposed to the case with second-hand sources in which one may expect a certain degree of interpretation in the registration of the data. Even though *Kjøbmand i Bergen* is a second hand resource, we uncovered that this work also used letters as a main source of transaction data. We performed

some tests of comparison which indicated that there is no deviation between the way Breistein and ourselves have interpreted transaction data from the letters.

### **3.4 *Limitations and possibilities***

Our skepticism towards the completeness of transactions in our dataset implicates that we cannot in any way conclude that the number and amounts of entries registered for a specific year represent the actual figure. Nevertheless, the confidence that entries registered are real entitles us to interpret aggregate figures as lower bounds for the actual figures, and make inferences about the frequency and scale of Hauge's economic activity based on this.

## 4. The economic life of Hans Nielsen Hauge

### 4.1 Hauge's life and work

Hauge was born on April 3<sup>rd</sup> 1771 at Rolvsøy, Fredrikstad southeast in Norway. His family lived on a farm, and they were 10 siblings. The most important day in Hauge's life, as he described it, was a day he was plowing an area of the family farm. The song *Jesus, I Long for Thy Blessed Communion* was on his lips, and he felt the love of God. He said that: "At this point my mind became so exalted that I was not myself aware of, nor can I express, what took place in my soul. For I was beside myself. As soon as I came to my senses, I was filled with regret that I had not served this loving transcendently good God<sup>21</sup>." After his revival he read a book about Johannes Taulers' revival, and found it so significant that he wrote and published a shorter version of the book.

This experience provided Hauge with the motivation to visit places all over Norway and preach the gospel, establish networks and found new businesses. When he walked from one place to another, he was worshiping, singing and knitting. The knitting was to make presents for poor children, and the worshiping and singing to honor God. At the farms on which he stayed, he helped out with work and gathered people for prayers. He was also a writer, and published 33 Christian books.

His preaching activity was illegal according to "Konventikkelplakaten", a Norwegian enactment from 1741. This law forbade people to organize devotions without the approval from the local priest. Hauge was arrested for breaking this law ten times in seven years. In 1804 a comprehensive trial against him started. He was sent to prison and fined 1000 RD. Immediately after his imprisonment, he wrote a reader's letter in *Christiansands Adresse – Contours Efterretninger*. This was the newspaper they obtained the rights to, when they purchased the printing house in Kristiansand. Hauge wrote that: "...the famous fanatic Hans Hauge has created a fortune of 200 000 RD

---

<sup>21</sup> Kiefer, J.E., Hans Nielsen Hauge, Renewer of the church 28 mardh 1824, <http://justus.anglican.org/resources/bio/122.html> , 10.11.09

through preaching and the establishment of a religious network<sup>22</sup>." Hauge continues the letter arguing that the sum is way out of proportion, and that the accuser is just envious. It was not until 1813 that his sentence was passed. First he was sentenced to two years of slavery, but he appealed to the courts and December 23<sup>rd</sup> 1814 his conviction was changed to merely paying a fine of 2000 RD<sup>23</sup>.

After Hauge was released he had to work very hard in order to repay his debt. Otherwise the government threatened to declare him bankrupt. He got happily married, but would be suffering from poor health the rest of his life. His friends bought him the Bredtvedt farm in Grorudalen where he died 53 years old, March 29th 1824.

Hauge upheld a pietistic Christianity, but he emphasized more to serve God with practical work than the pietistic movement traditionally had. He preached that people should live ascetic, and honor God in everything they did. He also told his friends to work as hard as possible, utilizing the gift of resources they were provided with from nature.

This type of lifestyle enriched many Haugeans. However, instead of enjoying the fruits of their wealth, money was reinvested in new businesses so they could create even more value and employment opportunities for people. Hauge claimed that work was a blessing for people.

Hauge had a socially responsible view in the sense that he believed that friends should take care of each other. On a trip to the northern part of Norway, more specifically Bardu and Målsdalselv, Hauge arrived in a very poor village. He decided to ship food at a low price so that the people of the village could eat more nutritiously, and consequently work harder in order to build up this part of the country<sup>24</sup>. On the other

---

<sup>22</sup> Kvamen, I., 1971, Brev frå Hans Nielsen Hauge Volume 1 p 296, Furuset Boktrykkeri 1971, Norway

<sup>23</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 114-115, AS John Griegs Boktrykkeri Norway: Bergen

<sup>24</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 114-115, AS John Griegs Boktrykkeri Norway: Bergen

hand he wanted as little influence as possible on behalf of the government in commercial business, and that individuals should be entitled to private property rights<sup>25</sup>. It has been written that Hauge wanted more farmers to sell their farms and start work in industry. The poverty gap between farmers was significant<sup>26</sup>: “In 1802 all the Norwegian farms were valued, and the data resulting from this work describes farmers from a new perspective: 11 percent of the farms were worth more than 800 RD, 27 percent had a value between 300 and 800RD, 32 percent between 150 and 300 Rd and 30 percent below 150 RD. One can hardly claim that no poverty gap existed”. Hauge was aware of this social problem, and wanted to help.

Hauge was a preacher who people listened to, and he enjoyed a high degree of trust. He preached the Gospel, helped them to start their own businesses, and provided them with books in order for them to be able to read Christian literature. As mentioned above, he established an extensive network of friends and followers during his travels. This network constituted business partners, investors, Christian brothers and sisters, friends and family<sup>27</sup>. This network was very strong, and we notice that none of the debt certificates that Hauge wrote mentions any kind of interest. Still, we came across a few debt transactions from which Hauge was charged interest. Nevertheless, none of the counterparts from these transactions were a part of the network.

---

<sup>25</sup> Gilje, N., 1994, Hans Nielsen Hauge og kapitalismens ånd, Norsk senter for forskning om ledelse, organisasjon og styring og Universitet i Bergen, Senter for europeiske kulturstudier page 17. Bergen, Norway 6 February 1994. Norway: Bergen

<sup>26</sup> Dyrvik, S., Fossen, A.B, Grønlie, T., Hovland, E., Nordvik, H., Tveite, S., 1979, Norsk økonomisk historie 1500-1970 Volume 1 1500-1850 p 191, Universitetsforlaget Bergen ISBN 8200019217

<sup>27</sup> Gilje, N., 1994, Hans Nielsen Hauge og kapitalismens ånd, Norsk senter for forskning om ledelse, organisasjon og styring og Universitet i Bergen, Senter for europeiske kulturstudier. Bergen, Norway 6 February 1994. Norway: Bergen

## **4.2 Industrial projects, merchant- and shipping activity**

During his time as an entrepreneur, Hauge took part in the establishment and operations of several industrial businesses in which he participated on different levels. He had knowledge from Denmark that helped him to be a pioneer of development in Norwegian industry. There was a shift in Norway towards that<sup>28</sup>: "...the production was standardized, and it was restructuring in the organizations to rationalize the production". Besides the industrial projects he also spent a substantial amount of his time in conducting merchant activity and even some time speculating in shipping. We have selected the eight industrial projects/investments we found the most interesting and described them below along with a synopsis of Hauge's merchant activity and shipping activity.

### **4.2.1 Svanøe farm**

Hauge was hoping that the farm could act as an area of recreation for his friends and employees. He had told his friend Simon Knudsen Storemoen about this farm, and recommended him to buy it<sup>29</sup>. Storemoen had made 5000 RD from an old farm he had sold, and therefore he sent 3500 RD to Hauge so he could buy the farm. Hauge assured Storemoen that he would not face any losses when operating this new farm. The agreed overall price was 11999 RD. Importantly, this was a price which indicated a tax reduction compared to the price of 12000 RD.

After a while Hauge discovered that Storemoen was not able to take on the new farm because he was in the army, and forced to stay in Numedalen. As an option, he let Ole Torjussen Helling from Hallingdal operate the farm. Since Helling had less capital than Storemoen, a seller named Jansson would give them a loan of 6000RD at 4percent interest and against the farm as collateral. Additionally, it is mentioned that Hauge got a decent discount on the farm. Of interest, the farm worked as a place where poor people

---

<sup>28</sup> Dyrvik, S., Fossen, A.B, Grønlie, T., Hovland, E., Nordvik, H., Tveite, S., 1979, Norsk økonomisk historie 1500-1970 Volume 1 1500-1850 p 231, Universitetsforlaget Bergen ISBN 8200019217

<sup>29</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p?, AS John Griegs Boktrykkeri Norway: Bergen



could stay, work and obtain their earnings in the form of food. Helling was a very innovative man, he raised the mill that Hauge had planned, started a saltern and raised a dockyard. As an outcome, the legal owner, Helling, became a well known person in Norway. From 1812 until 1842 he was a member of the government. Following this period he became a businessman in Bergen.

It can be argued that Hauge was responsible for this project considering the fact he had the initial idea, as well as being in charge of finding the investors, and giving the people enough security to take on the risk of operating the farm. Hindsight indicates that without his participation the project may not have survived.

#### **4.2.2 The residence of Mr. Loose**

In the spring of 1801, Hauge wanted to become a merchant in Bergen. However, to fulfill this role there was one crucial rule to follow: "the trade license had to give the city benefits and it was expected that the merchant should be able to afford a house as well as a fireplace in the city"(NL 3-3-2)<sup>30</sup>. Hauge was aware of the benefits the title as a merchant and also the trade license itself would provide him with. He came in touch with a man named Johan Loose. He was running a copper shop, and was acquainted with Hauge straight away after he had arrived in Bergen. Mr. Loose offered to sell his house for 70 RD, the same price as the residence had been purchased for back in 1796.

Consequently, the house opened up for the possibility that Hauge could start functioning as a merchant in Bergen. Our perceptual view of the deal as merely a fictional strategic transaction implies that no money actually changed hands. Another significant aspect in this argument is the fact that Hauge let Mr. Loose continue living in his house for free after the transaction was closed. This is an example of how Hauge utilized his greatly developed networking skills. In a short amount of time, he obtained the trust of Mr. Loose to the extent that he gave up his property rights for virtually nothing and was not even transferred the provisional amount of 70 RD.

---

<sup>30</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 43 and 76, AS John Griegs Boktrykkeri Norway: Bergen

### **4.2.3 The mill in Aadalen**

On a trip through Aadalen around the Christmas of 1800, Hauge had a conversation with his friends regarding a paper mill. Nils Iversen Schanes had plans of building a paper mill in Aadalen<sup>31</sup>, however these plans were never approved. Therefore, Hauge wrote a letter to Mads Moeller on the 21th of Mars, 1801 discussing the mill in Aadalen. They both had hoped that the government would give them a grant. Unfortunately, there were rumors indicating that another mill in Norway had got this grant. Hauge said that even if the mill in Aadalen did not get the grant, they should still start building it. Also, if they were short on capital they could always tell Hauge and he would send them the necessary funds.

It is apparent that Hauge was quite involved in the financing process. He made sure that the financing was obtained by applying for the previously mentioned government grant, and was prepared to invest his own funds if the grant would be rejected. Nevertheless, the problem turned out to go deeper than that, as the district recorder declined the application on the basis that he did not like Hauge. Moreover, the district recorder believed that Hauge had been writing false signatures on the applications.

### **4.2.4 The paper factory at Fennefoss**

Hauge had another ambition which involved the start up of a brand new paper factory at Fennefoss, and he got Torkild Svennungsen Aasen to operate the factory<sup>32</sup>. They made a deal with the landlords in the area resulting in them giving away their property rights to Hauge and Aasen. In return, the landlords required to be able to use the mill for free. On the 11<sup>th</sup> of April 1804 Hauge got the grants needed to build the mill, although, on one specific term. It was required that he hired a man who knew exactly how to operate the paper factory, as Aasen was not competent enough to run the operations himself. Therefore, in addition to Aasen, a man called Gunrod Wejulsen from Eiker joined in on

---

<sup>31</sup> Kvamen, I., 1971, Brev frå Hans Nielsen Hauge Volume 1 p 75, Furuset Boktrykkeri 1971, Norway

<sup>32</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 132, AS John Griegs Boktrykkeri Norway: Bergen

the team running the factory.

It is worth to note that the paper factory was exactly the same as the one Hauge built in Eiker, and apparently it turned out a great success<sup>33</sup>. Since Aasen was not able to finish the building process, he was forced to find three friends of Hauge to buy shares and subsequently participate in the further development. In reality, the factory also acted as a church to all the local Haugeans in the area. This illustrates how Hauge acted as an entrepreneur. In short, he discovered a good business opportunity, challenged the right person to join in, which in turn led to success in the operations of the business. In spite of this, it is important to bear in mind that Hauge was not directly involved with operations, but merely the one who came up with the initial idea.

#### **4.2.5 The brick factory at Eeg, Kristiansand**

President Numsen was in charge of building the brick factory at Eeg<sup>34</sup>, which involved extensive investments. Despite this, the operation of the factory did not show any continual progress and as a result, the business initially was not profitable. In 1781 the property rights were offered to the top official in Kristiansand on the terms that solely the production of bricks would take place. Even though the factory could burn 60 000 bricks pr. year, evidence suggests the quality was rather low, resulting in the issue of the bricks simply having an indoor function. Several owners appeared in this period, however, Johan Lausen Bull, was the last one before the factory went out of business in the spring of 1804. Noteworthy, the reality that Bull did not produce bricks at the factory was illegal, and for that reason he was forced to sell it to someone that could meet this objective.

Hauge discovered the factory as he was travelling through the city of Kristiansand. He found it unfortunate that it did not produce any output, so he suggested to Ole Eyelsen

---

<sup>33</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 132, AS John Griegs Boktrykkeri Norway: Bergen

<sup>34</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 134, AS John Griegs Boktrykkeri Norway: Bergen

from Aamli that he should buy it. The young boy approved, and sold the family farm for 5000 RD to finance the purchase. Not only did Ole purchase the factory and the attached buildings, he also obtained a farm as well as a separate two storey building in the same deal. Ole did not pay the whole amount of 2800 RD which was the asking price. He paid 2000 RD cash, and was left with 800 RD in short term debt to Bull. He worked very hard and persistent to succeed and his religious belief kept him motivated. Finally, the factory became a very profitable business. In 1808 it could produce as many as 100 000 bricks per year, which obviously led to an upturn in the overall financial condition of the business. In 1814 he further increased the production to a total of 340 000 bricks. Due to the organic growth in the business, he decided to strengthen his team with 17 new employees. Mr. Eyelsen's positive loop of lucrative business achievements did not end, and in 1812 he commenced a factory that produced the infamous Swedish "kakkelovn".

Again, this is another example revealing Hauge's lack of being a direct part in operations, yet an important factor as initiator of a successful industrial project. Because of his ability to find the right individual for the job, he ensures success without being directly involved in administrating the business. He was also very good at establishing incentives in an effort to make them perform at their highest level. Quite often, the incentives were of religious nature.

#### **4.2.6 The printing house in Kristiansand**

In 1798 Hauge travelled from Bergen to Kristiansand where he lived for a short period. He became aware of the printing house since he was in need for such services in order to be able to print his book *Tauleri Omvendelses Historie*. Due to a strong effort, he managed to obtain some knowledge and facts about the printing house. Mr. Stephansen, a friend of Hauge who worked in the printing industry, knew that the printing house was for sale and recommended Hauge to buy it. Although the building was old and rundown, this did not worry Hauge. His current cost of printing was very high and he knew he had to bring down costs in order to print more of his book. He therefore took the challenge of bringing the building up to standards, despite its poor initial condition. He believed that the cost cutting potential was extensive and could be better achieved through the reduction in use of raw materials from the paper factories at

Eiker and Fennefoss.

On a trip to Kristiansand in 1803 he discovered that the printing house was still for sale. Again, Hauge used his skill of finding the right person to operate the printing house. His choice was a carpenter named Hans Thorsen Bacherud. The printing house also had the rights to produce a newspaper: *Christiansands Adresseconnoirs Efterretninger*.<sup>35</sup> Hauge believed the newspaper could help him to spread his Christian message. In the spring of 1803 the deal was closed at the price of 5900 RD. However, there were rumors in Kristiansand stating that Bacherud only acted as a straw man for Hauge, and that it was in fact Hauge who owned the printing house.

Because the printing house had problems at the beginning, Bacherud was tempted to sell it. However, he got in touch with a printer called Christopher Andersen Grøndahl. Hauge had found this man from Østre Grøndalen in Ullesaker interesting and bright, and taken him to Copenhagen where he was taught the art of printing. When Grøndahl returned to Kristiansand he was in charge of printing several of Hauge's books. It is worth to note that the printing process of these books left Hauge indebted to the printing house in Kristiansand when he was arrested in 1804 (see table 1 below).

---

<sup>35</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 137, AS John Griegs Boktrykkeri Norway: Bergen

**Table 4.1 – Hauge’s debt to the printing house in Kristiansand**

2000 copies	Verdens Daarlighed 4 ark a 11rd	44 rd
3000 copies	De enfoldiges Lære	15 rd
2000 copies	Sandheds Bekiedelse	22 rd
3000 copies	Forklaring over Herrens Bøn	15 rd
10000 copies	Sum	96 rd

Note: Hauge printed several more books at this printing house<sup>36</sup>.

The printing house along with his merchant activities made Bacherud rich. When Bacherud died in 1814, Ole P. Moe took over the printing house, and also became a wealthy man.

What we discover in this business case is that Hauge was very cost conscious and thus concerned about the price he paid for printing books. He regarded it as a golden opportunity when the printing house in Kristiansand was made available for sale. It is also evident that Hauge had a talent in challenging people to take on jobs for which they had a potential to succeed in.

#### **4.2.7 The copper mine in Vingelen, Østerdalen**

In 1803 when Hauge travelled from the north to the southern part of Norway, he was told that some Haugeans had discovered a significant amount of copper in Vingelen. Arnt Bjørnsen Solem could confirm that it was Hauge who had told his friends in Vingelen to go on and extract these resources. They put together a group of people and established a convention from which they sent an application for a royal confirmation in

---

<sup>36</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 141, AS John Griegs Boktrykkeri Norway: Bergen

an attempt to get the final permission for mining.

Røros Copper Miners claimed the rights to this property, but Hauge argued that they should be entitled the rights. Eventually, assessor Mathiesen in Christiania bought the property from the Haugeans, and Solem estimated that the profit made from this transaction, was 2000RD<sup>37</sup>.

#### **4.2.8 Hauge's merchant activity**

In the merchant activity Hauge managed from Bergen, he participated a great deal<sup>38</sup>. He established several trading stations along the Norwegian coastline, so that he could purchase and distribute goods more efficiently. When he arrived in Trondheim on a vessel with large amounts of fish, he invited Solem to join in on an extensive trip. They ended up at Gjessingen, where Hauge discovered a trading station, and he suggested that Solem should buy it. Solem agreed, and took on the job of operating the station, hence, expanding Hauge's distribution network<sup>39</sup>.

In an attempt to continuously update his trading stations regarding the prices in Bergen for various types of goods, Hauge frequently sent business letters to his friends around Norway. By doing this, they were able to buy the goods at a fair market price and then send them to Bergen. Since Hauge possessed this information, he was able to increase the profits from his merchant activity. He typically purchased the goods in Bergen where they were cheapest, and sold them where the prices were higher. Hauge describes how they measured the weight of the goods and how they would prepare the raw materials (i.e. how they would undertake the salting process of the fish). By doing this, the trading stations would be able to calculate an estimated price for their goods.

---

<sup>37</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 145, AS John Griegs Boktrykkeri Norway: Bergen

<sup>38</sup> Kvamen, I., 1971, Brev frå Hans Nielsen Hauge Volume 1 p 263-264, Furuset Boktrykkeri 1971, Norway

<sup>39</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 109, AS John Griegs Boktrykkeri Norway: Bergen

This knowledge that he shared with his network was quite important. *Norwegian economic history from 1500 – 1850* describes the market situation<sup>40</sup>: “The Norwegian herring was twice as expensive as the Swedish herring, and the price was increasing in the years preceding 1807. This was also the case for other Norwegian fish goods”

Since Hauge was located in Bergen, he was privileged in getting hold of all kinds of goods. By taking advantage of this benefit, he was able to send food to areas where it was lacking nutrition, such as in Nordland. Also, he told his brother who was situated in Kristiansand, that the price on liquor was much lower in Bergen than any other place in Norway. In response, Hauge’s brother wrote to Loose telling him to send him a set amount of liquor so he could profit from selling this at a significantly higher price.

It may be argued that people who were trading with Hauge regarded him as a highly trustworthy person, and believed he would not be dishonest about neither prices nor trading agreements. This provided Hauge with confidence in where he should ship his goods to generate as much profit as possible. Moreover, when he travelled around Norway as a missionary, he also developed a trading network. This network comprised investors, business partners and friends.

Hauge wanted to start as a merchant because he believed that this activity could generate extensive profits and finance the establishment of new businesses which furthermore would create work for people around Norway<sup>41</sup>. He intended to do everything he could to generate as much money as possible. Hence he lived an ascetic life, without any luxury<sup>42</sup>.

---

<sup>40</sup> Dyrvik, S., Fossen, A.B, Grønlie, T., Hovland, E., Nordvik, H., Tveite, S., 1979, *Norsk økonomisk historie 1500-1970* Volume 1 1500-1850 p 159, Universitetsforlaget Bergen ISBN 8200019217

<sup>41</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 39, AS John Griegs Boktrykkeri Norway: Bergen

<sup>42</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 81, AS John Griegs Boktrykkeri Norway: Bergen



#### 4.2.9 Hauge's shipping activity

Hauge both bought and sold several ships. However, it was Mr. Loose, who was Hauge's brother in law, who bought "Stadt Bergen" <sup>43</sup>for 3000 RD, in order for them to conduct trade with other large trading hubs in Europe. Ten days after the transaction was completed Mr. Loose was offered 3000 RD, in addition to the cutter Aurora, for Stadt Bergen. He accepted the offer, sold Aurora and profited 600RD on this transaction. Even if this was a lucrative deal, Hauge was faced with the issue of lacking a vital ship in his transport of goods to the continent.

In an attempt to compensate for the lost shipping capacity, he bought the frigate Christiane Margaretha, which turned out to be an unsuccessful trade. Hauge's initial objective was clever as he tried to imitate Mr. Loose and earn a quick buck. Unfortunately, the boat was a wreck and needed a lot of repairs. Therefore, he tried to sell the ship in Drammen, but wasn't able to find any willing buyers.

Hauge was involved in buying and selling smaller vessels as well, which were also utilized in his merchant activities. Hauge had good timing in taking up shipping. The Napoleonic wars were raging from 1793 until 1814. The French attack on Holland, a significant player in international shipping, was very advantageous to Denmark – Norway<sup>44</sup>. "Bergen once again became the shipping capital of Norway...and with the increasing shipping rates the ship owners earned substantial profits".

---

<sup>43</sup> Kvamen, I., 1971, Brev frå Hans Nielsen Hauge Volume 1 p 86-89264, Furuset Boktrykkeri 1971, Norway

<sup>44</sup> Dyrvik, S., Fossen, A.B, Grønlie, T., Hovland, E., Nordvik, H., Tveite, S., 1979, Norsk økonomisk historie 1500-1970 Volume 1 1500-1850 p 159, Universitetsforlaget Bergen ISBN 8200019217

Merchant in Bergen lists several vessels that Hauge owned. These were vessels he bought during a short time period, most likely some time in 1803 and 1804<sup>45</sup>.

- Forsøg
- Anna Helena
- Haabet
- Nicolai
- Aurora (Fishing boat)
- Aurora (pinnace)
- Aurora (cutter)
- Stadt Bergen
- Christiane Margaretha

#### **4.2.10 The paper factory at Eiker**

In 1800, Hauge discovered that he could build a paper factory at Eiker. The Haugeans started to construct the factory, after the application to the county man, Lange, had been approved. Initially, the employees suffered from a lack of motivation, but Hauge's friend Lapperud solved this by instructing the workers<sup>46</sup>: "...we shall follow the light, not the darkness".

Employing workers to the factory was simple, and in particularly Cornelius Corneliussen was a valuable resource for Hauge. Mikkel Haug, Hauge's brother, became the manager of the factory. Producing paper was considered an art, and competent people were rare.

---

<sup>45</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 86-89, AS John Griegs Boktrykkeri Norway: Bergen

<sup>46</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 127, AS John Griegs Boktrykkeri Norway: Bergen

There were few paper factories in Norway at that time, and Eiker was the fifth one to be established. It was difficult to raise funds needed to construct the factory, hence Hauge himself invested 200 RD. He was also able to convince his friends to invest. The friends were able to build this factory without the need of capital from Hauge.

In 1802, Hauge stayed at the factory for 14 days both to motivate the workers and help them finish the factory. In the fall of 1802 the factory was finished, and the accountant estimated that its value was 6000 RD. This was the same amount as the debt related to the factory. The factory employed 50 people, who were known to make the best paper in Norway. In 1808 the factory was valued at 15000 RD.

### **4.3 The monetary system and economic conditions at the time**

Hauge had his revelation on April 5<sup>th</sup> 1796. Still, it is not until 1799 that we find the first trace of economic activity on behalf of Hauge<sup>47</sup>. The last trace of economic activity we have come across during our research occurred in 1823<sup>48</sup>. According to a publication which was published in relation to the 100 year anniversary of the end of the union between Norway and Sweden<sup>49</sup>, the period from 1807 – 1842 was a particularly difficult one in Norwegian monetary history. The Danish-Norwegian state virtually went bankrupt and the monetary system stopped functioning. The turbulent times meant increased business risk on behalf of entrepreneurs and people involved in the trade of goods, thus substantial losses and bankruptcies were not infrequent.

The liberation in foreign trade conducted in 1788 had contributed to the economic growth in Norway. The abolition of both the cereal- and iron monopolies, as well as other export-import embargos led to an increase in the economic growth which lasted until Denmark-Norway was drawn into the Napoleonic wars on the side of France in

---

<sup>47</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 127, AS John Griegs Boktrykkeri Norway: Bergen

<sup>48</sup> Kvamen, I., 1974, Brev frå Hans Nielsen Hauge Volume 3 p 14, Furuset Boktrykkeri 1974, Norway

<sup>49</sup> Eitrheim, Ø., 07.06.05, Fra Peder Anker til stabilitet I pengevesenet, Tilbakeblikk på Norsk Pengehistorie, Bogstad Gård, 07.06.05

1807. Since Denmark-Norway chose to side with France, Great Britain imposed a trade embargo which among other factors led Norway into a long economic downturn. The recession overlapped into the union established with Sweden in 1814. The union was a result of the outcome of the war. The defeat of Napoleon, and furthermore Denmark-Norway, left Norway as a form of war indemnity to Sweden, which had fought on the opposite side in the war.

Even though the economic downturn first started in 1807, the trust in the Norwegian monetary system was already poor at the time when Hauge started his economic activity. The two initial attempts to regain the confidence in the monetary system failed. The third attempt began with the establishment of Norges Bank June 14<sup>th</sup> 1816. However, the success was far from immediate, and can hardly be claimed until November 15<sup>th</sup> 1822 at the earliest. On this date the Norwegian parliament adopted a long-term strategy of leading the monetary value back to par value. The goal of the strategy, however, was not reached until April 23<sup>rd</sup> 1842, 20 years later.

Conclusively, most of the period in which Hauge conducted business was a troubled time for people involved in business activities. In the early phase of Hauge's work, Norway experienced growth. Nevertheless, the monetary system lacked confidence and credit was not easily available. After Norway became involved in the war, things turned worse as a non-functional monetary system making it difficult to obtain credit now coincided with turbulence in the national business cycle which in turn meant increased macro risk.

## **4.4 *The frequency & scale of economic activity***

### **4.4.1 The frequency of economic activity**

We started out by looking at the frequency of economic activity, and concluded that the frequency of entries in our dataset represented a fair proxy variable for this purpose.

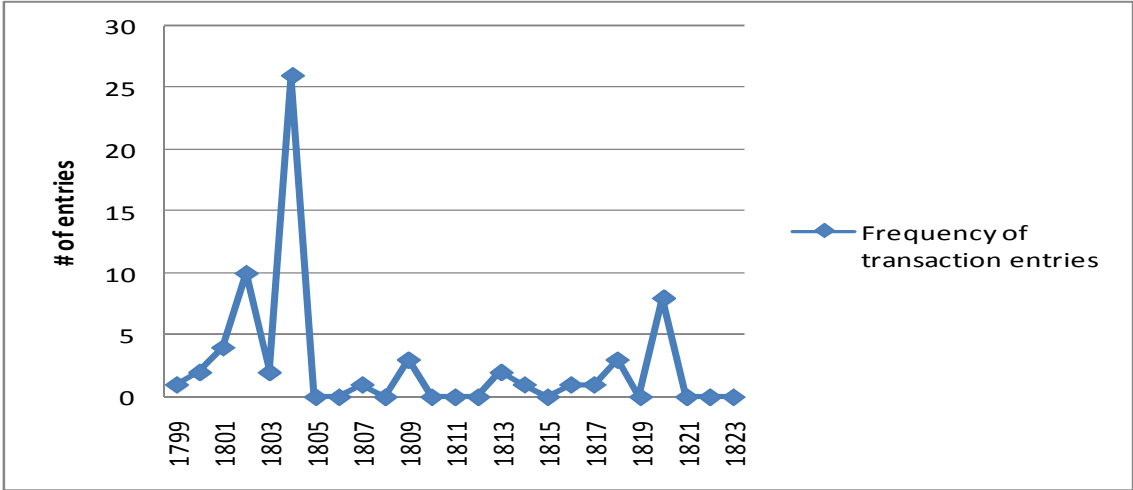
We organized the entries in our dataset (Ref. Appendix – table A3) to focus merely on the frequency of transactions by initially ignoring the amount and classification of each entry. We created time series of the Hauge, Haugean and common entries respectively. The sum of entries of the two former series (98) is slightly larger than the number of entries in the latter (94). This is due to the fact that four of the entries in our dataset were directly linked to both Hauge and to other Haugeans when we created the dataset.

Even though one of the subsets refers to Haugeans, we argue that these entries may still be relevant to Hauge. Being that we came across the related transactions while researching Hauge, he is likely to have been indirectly involved in these transactions. The figures related to the Haugean subset cannot be interpreted as a representation of all Haugean economic activity in the period. This activity was probably much larger. The transactions reflected here are merely the ones in which Hauge to a certain extent was involved.

In the following we have treated entries related to transactions which were completed or not completed equally, because the transactions related to the latter represents business activity even though they were not completed.

Table 3 in the appendix does not provide us with a good overview of the distribution of transaction entries. We will therefore present charts of the time series of annual frequency data for Hauge and Haugeans below to illustrate how the entry data of the two subsets is distributed, and possibly interlinked.

**Chart 4.1 – Time series of transaction entries – Hauge**



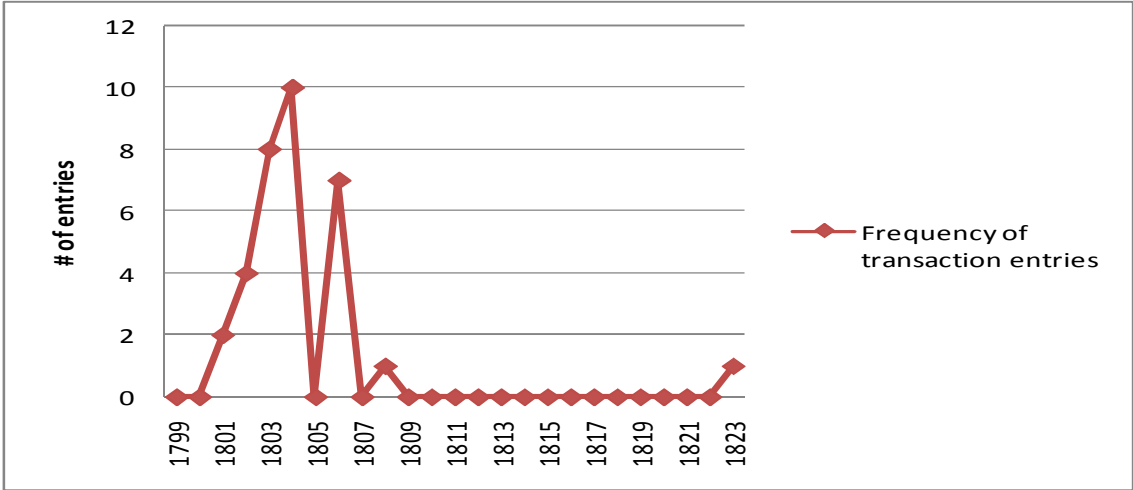
There are three years in the time series of relatively frequent economic activity; 1802, 1804 and 1820.

The definite peak year is obviously 1804 as 40 percent of entries occurred this year. 1802 also seem to be a year of in particularly high activity. This is illustrated by a representation of ten entries which constitutes a 15 percent share of total entries in the subset. The final year we take particular notice to, 1820, comprises a twelve percent share of total entries, only slightly less than 1802.

Altogether, the three years with the highest frequency of entries represent 67 percent of all entries in the Hauge subset.

Despite the occurrence of transaction data from a relatively long time period (1799 – 1820), the great majority occurred in merely three years. Another noticeable observation is the long period of negligible activity (1804 – 1820).

**Chart 4.2 – Time series of transaction entries – Haugeans**



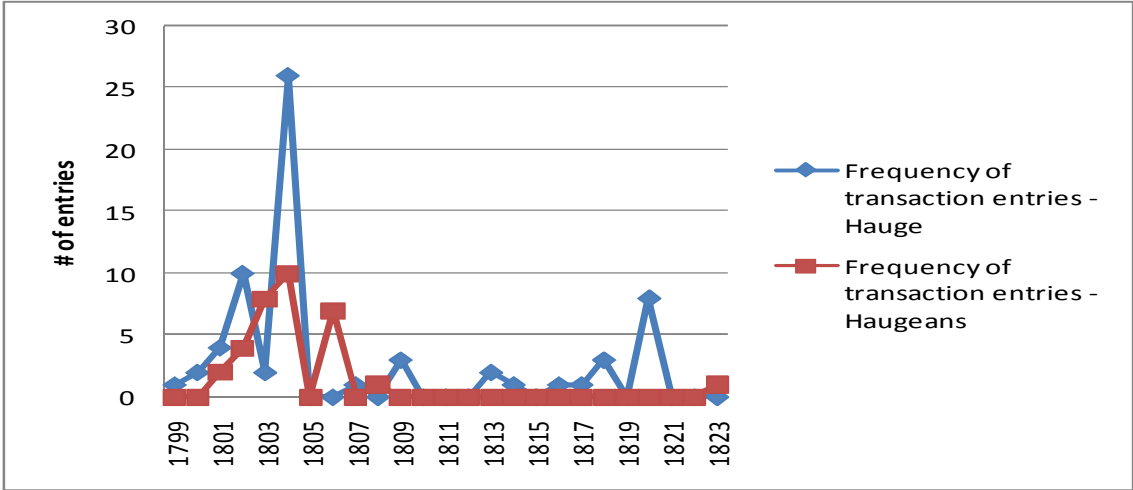
There are also three years in the Haugean subset which stand out. However, merely one of the years coincides with the Hauge subset, namely 1804.

1804 constitutes 30 percent of the entries in the subset. While the previous year, 1803, had 24 percent of the total share of the subset, the final of the three years standing out, 1806 make up 21 percent.

Altogether, the three years with the highest frequency of entries represent 75 percent of all entries in the Haugean subset.

Similarly to the Hauge data, we also experience a narrow distribution of transaction entries for Haugeans. The significant period of activity is 1803 – 1806. Within this period we notice that no entries were registered for 1805.

**Chart 4.3 – Time series of transaction entries for both subsets**

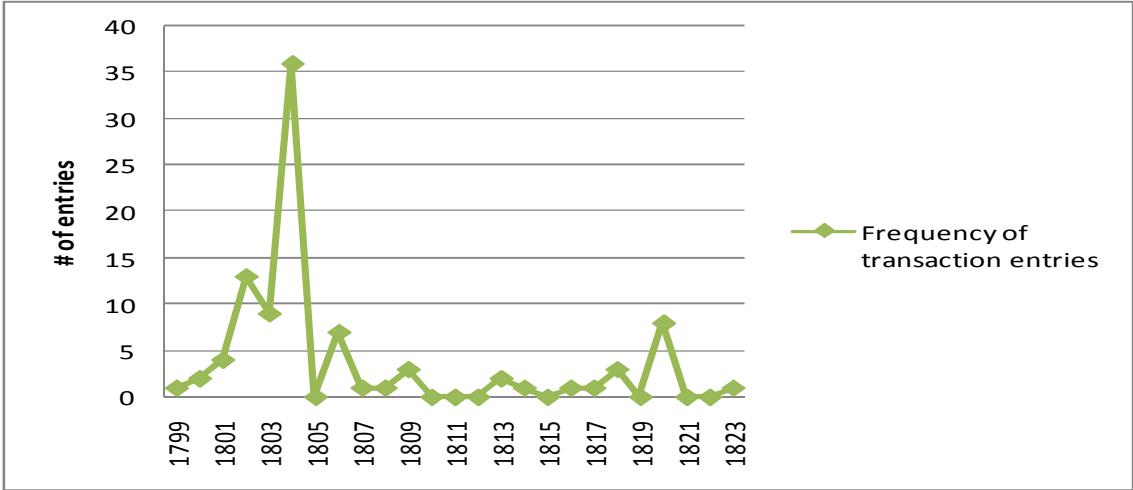


As illustrated in the chart above, 1804, is the peak year of both time series. Equal to the Hauge subset, we encounter no entries for Haugeans in 1805. However, conversely we find that while merely two entries in the Hauge subset occurred in 1803, the same year constitutes eight entries for Haugeans.

Another puzzle is that while there are no registered entries for Hauge in 1806, we have registered seven entries for Haugeans. After 1806 there are only two entries for Haugeans in our dataset. The final puzzle is that while we registered eight entries for Hauge in 1820, no entries were registered for Haugeans the same year.



**Chart 4.4 – Time series of transaction entries for the complete dataset**



When looking at the complete dataset, we argue that there are five years of relative importance; namely 1802, 1803, 1804, 1806 and 1820.

In the peak year of 1804 we observe that Hauge was directly or indirectly involved in financial transactions generating 36 entries in our dataset, constituting 38 percent of total entries. Not considering the size of the amounts, this resembles quite substantial economic activity. 1802 and 1803 represents 14 and ten percent respectively, while the share for 1806 is merely seven percent. 1820 is at about the same level as 1803 at nine percent.

The information from all four charts combined indicate that the major part of Hauge’s economic activity in terms of financial transactions (62 percent of total entries) occurred in a single time period of just a few years from 1802 – 1804. Besides two individual years after this period (1806 and 1820), Hauge’s activity in terms of frequency has been negligible.

The fact that a single year (1804) is so dominant, and that 1806 follow a year of no registered entries represent interesting puzzles. The sudden upturn in the frequency of activity in 1820, after 14 years of low activity, may also be an issue worth looking into.

#### 4.4.2 The scale of economic activity

When looking at the frequency of economic activity, we chose to include the entries in our dataset related to transactions which were not completed. In this section we choose to exclude these entries from the analyses. Even though they represent economic activity, the large size of the amounts may have been a decisive factor in determining that the corresponding transactions were not completed. Conclusively, a total of 88 entries was the basis for calculations in this section.

Each debit entry is classified either as investments in loans or fixed assets, while each credit entry is classified as either debt- or equity financing. The sum of the amounts of all 88 entries is 2 554 AWEs or 2008 NOK 51 154 550. However, as these figures represent both investment- and financing activities, it is useful to separate these two activities and study the amounts in more detail. Consequently, we created an overview of the aggregated data split into financing- and investment activities. The overview is presented in the tables; 4.2-4.4 below.

**Table 4.2 – Aggregated data of financing and investments**

Hauge (1799-1820)	2008 NOK	AWE	Share
<u>Financing</u>			
Debt	13 821 843	685	96 %
Equity	556 752	30	4 %
<u>Investments</u>			
Fixed assets	2 967 443	138	60 %
Loan	1 944 136	103	40 %
Total financing	14 378 595	716	100 %
Total investments	4 911 580	242	100 %

**Table 4.3 – Aggregated data of financing and investments**

Haugeans (1801-1823)	2008 NOK	AWE	Share
<u>Financing</u>			
Debt	7 570 934	377	51 %
Equity	7 283 413	353	49 %
<u>Investments</u>			
Fixed assets	18 037 929	920	100 %
Loan	17 257	1	0 %
Total financing	14 854 347	730	100 %
Total investments	18 055 187	921	100 %

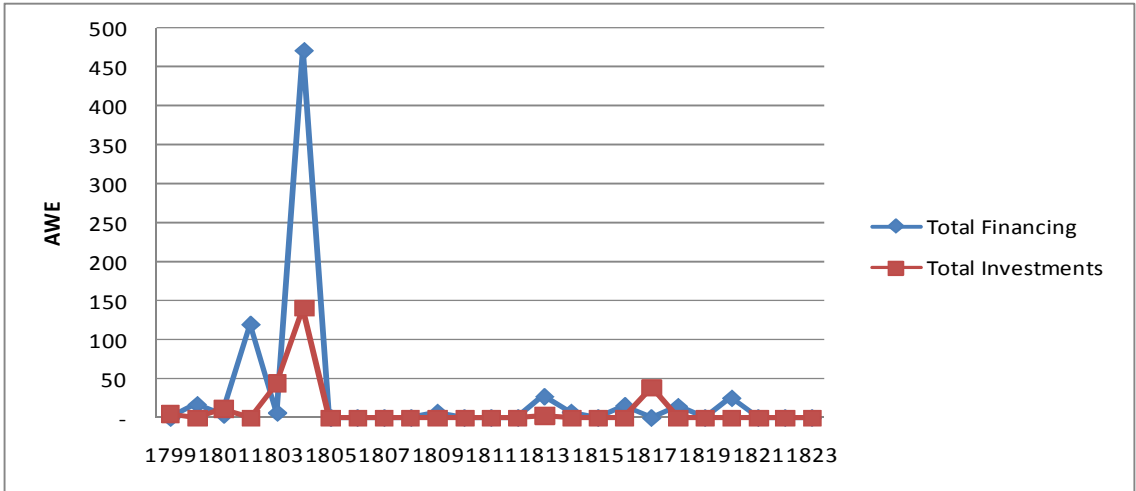
**Table 4.4 – Aggregated data of financing and investments**

Hauge & Haugeans (1799-1823)	2008 NOK	AWE	Share
<u>Financing</u>			
Debt	21 392 778	1 063	73 %
Equity	7 840 165	383	27 %
<u>Investments</u>			
Fixed assets	21 005 373	1 058	96 %
Loan	916 235	49	4 %
Total financing	29 232 943	1 446	100 %
Total investments	21 921 608	1 108	100 %

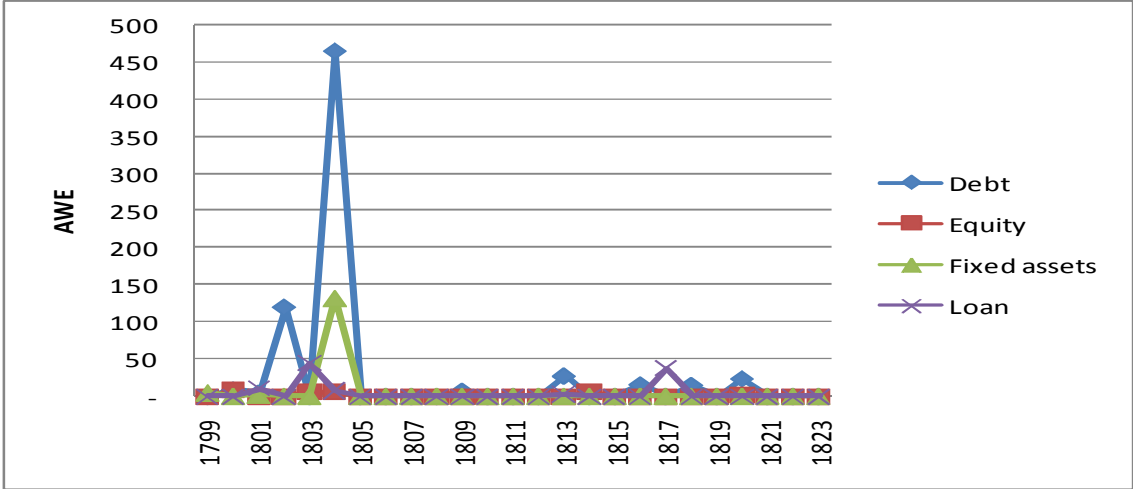
Next, we present aggregate and disaggregate annual data to examine the distribution of the investment- and financing figures within the period (ref. chart 4.5-10 below). Conversely to the tables, we only present the charts measuring AWE along the y-axis category in this section. Tables of the underlying data may be viewed in the appendix (ref. Table A4-A6).

The AWE figure takes both inflation and the dramatic change in welfare into account, from the time period analyzed and until today, while 2008 NOK merely adjusts for the former. We considered using a semi-logarithmic scale when presenting the data below, but decided that it was more important to illustrate the absolute differences in size between individual years than the nuances between the figures in years with low activity.

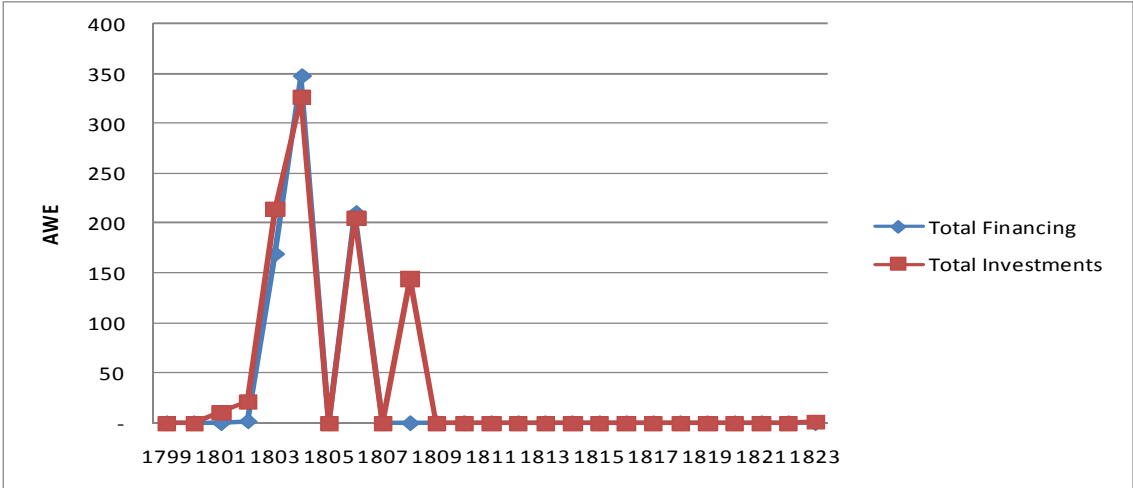
**Chart 4.5 – Aggregated investment- and financing figures – Hauge**



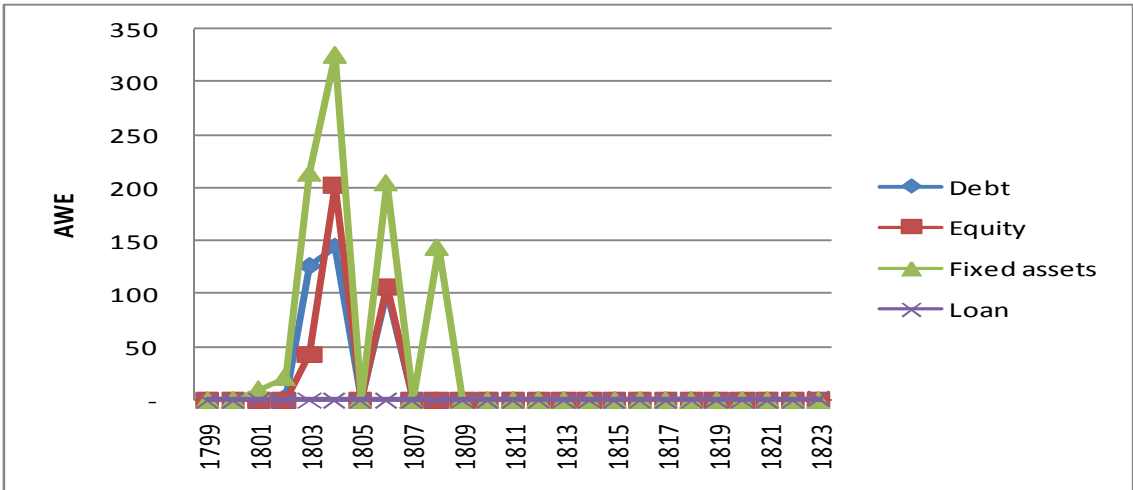
**Chart 4.6 – Disaggregated investment- and financing figures – Hauge**



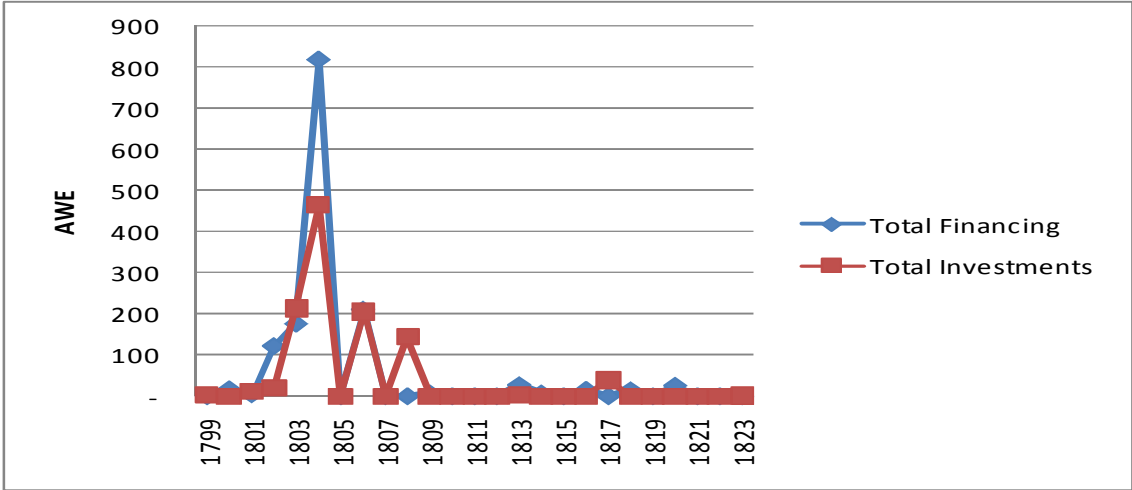
**Chart 4.7 – Aggregated investment- and financing figures – Haugeans**



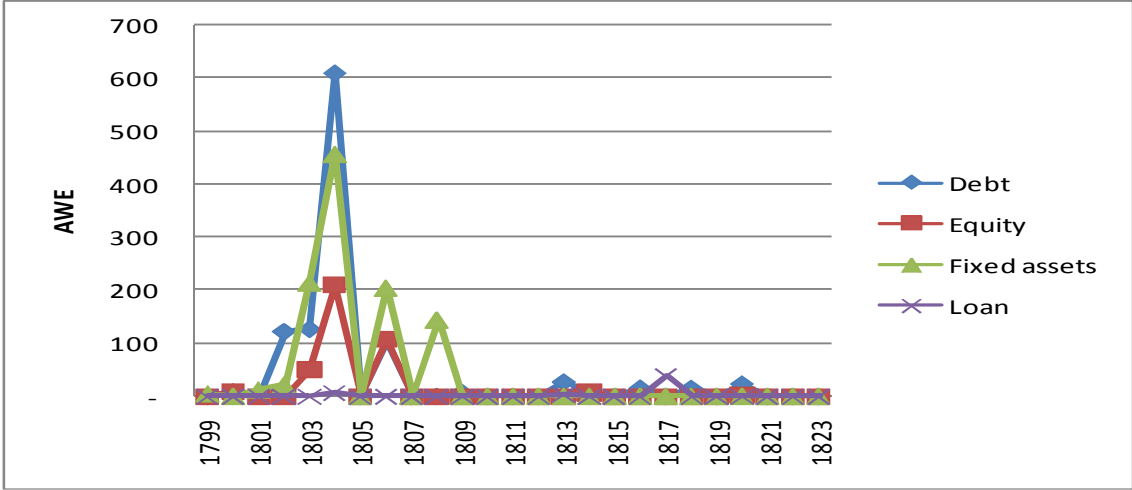
**Chart 4.8 – Disaggregated investment- and financing figures – Haugeans**



**Chart 4.9 – Aggregated investment- and financing figures – All data**



**Chart 4.10 – Disaggregated investment- and financing figures – All data**



We calculated the average and standard deviation of the different transactions for both the two subsets and the complete dataset. These statistics are presented in tables below.

**Table 4.5 – Average and StDev of entries in the Hauge subset**

Classification	Average		Standard Deviation		# of Obs.
	AWE	2008 NOK	AWE	2008 NOK	
Debt	16	321 438	22	467 332	43
Equity	4	79 536	4	66 056	7
Fixed Assets	46	989 148	75	1 597 909	3
Loan	15	277 734	18	337 570	7

**Table 4.6 – Average and StDev of entries in the Haugean subset**

Classification	Average		Standard Deviation		# of Obs.
	AWE	2008 NOK	AWE	2008 NOK	
Debt	38	757 093	39	827 380	10
Equity	44	910 427	7	137 456	8
Fixed Assets	77	1 503 161	86	1 760 312	12
Loan	1	17 257	N/A	N/A	1

**Table 4.7 – Average and StDev of entries in the complete dataset**

Classification	Average		Standard Deviation		# of Obs.
	AWE	2008 NOK	AWE	2008 NOK	
Debt	20	403 637	27	569 643	53
Equity	26	522 678	21	442 061	15
Fixed Assets	71	1 400 358	82	1 686 637	15
Loan	10	183 247	16	294 527	5

Finally, we studied two of the transactions in detail. In particular to look at the debt- and equity shares in the investments, but also to illustrate how an investment typically was refinanced.

**Table 4.8 – The purchase of Svanøe farm**

<b>Initial price Svanøe farm</b>	11999	
Discount	499	
<b>Investment amount</b>	<b>11500</b>	
		Percent %
<u>Equity:</u>		
Ole Svanøe	2000	
<b>Total Equity</b>	<b>2000</b>	<b>17 %</b>
<u>Debt:</u>		
Long-term debt Storemoen	3500	
Long-term debt Janson	6000	
<b>Total Debt</b>	<b>9500</b>	<b>83 %</b>
<b>Total financing</b>	<b>11500</b>	<b>100 %</b>

**Table 4.9 – The purchase of Strudshavn farm**

<b>Initial price Strudshavn farm</b>	11500	
Discount	1000	
<b>Investment amount</b>	<b>10500</b>	
		Percent %
<u>Equity</u>		
Mr Loose	2500	
<b>Total Equity</b>	<b>2500</b>	<b>24 %</b>
<u>Debt</u>		
Short-term debt Meyer	4999	
Short-term debt Krohn	3000	
<b>Total Debt</b>	<b>7999</b>	<b>76 %</b>
<b>Total financing</b>	<b>10499</b>	<b>100 %</b>
<b>Refinancing</b>		
		Percent %
<u>Equity</u>		
Mr Loose	2500	
Aalderust	2800	
<b>Total Equity</b>	<b>5300</b>	<b>50 %</b>
<u>Debt</u>		
Long-term debt Janson	3000	
Long-term debt Schneider	2200	
<b>Total Debt</b>	<b>5200</b>	<b>50 %</b>
<b>Total refinancing</b>	<b>10500</b>	<b>100 %</b>

## 5. Analysis

### 5.1 *Methods of analysis*

In the next section we will establish several different hypotheses we intend to test. The data we obtained does not fit the standard econometric way of testing hypotheses. We were therefore not able to establish any p values, and furthermore accept or reject the hypotheses based on these.

Therefore we have decided to use a qualitative analytic approach to determine the validity of the hypotheses. Qualitative analyses use a subjective judgment based on non-quantifiable information and may be used to analyze i.e. management expertise, strength of research and development, industry cycles, labor relations, or like in our case; historical events. On the basis of the previous descriptive sections we will discuss arguments relevant to whether it is probable that the hypotheses are true or not, and furthermore accept or reject them. We believe that this discussion and the conclusions will provide us with answers to the questions related to the problem defined in the introduction.

In this thesis we use both the deductive<sup>50</sup>- and the inductive<sup>51</sup> research methods. “The deductive method starts with a few true statements (axioms) with the goal of proving many true statements (theorems) that logically follow from them.” In the deductive method it is a theory that is the basis for empirical observations. “The inductive method starts with many observations of nature, with the goal of finding a few, powerful statements about how nature works (laws and theories)”. When a researcher collects observations of a phenomenon to create insight of a problem defined, he uses an inductive method. He creates the hypothesis or the theory after the observations are done.

---

<sup>50</sup> The inductive (scientific) Method, N/A,  
<http://www.batesville.k12.in.us/physics/PhyNet/AboutScience/Inductive.html>, 17.12.09

<sup>51</sup> Sander, K., 08.23.04, induktiv vs. deduktiv fremgangsmåte,  
<http://www.kunnskapssenteret.com/articles/2470/1/Induktiv-vs-deduktiv-fremgangsmate/Induktiv-vs-deduktiv-fremgangsmate.html>, 17.12.09



## **5.2 Formulation of relevant hypotheses**

In section 1.2 we introduced the problem defined along with two related questions. In order to answer the questions, we intend to formulate a number of hypotheses in this current section and conduct tests of these in the next one. We think the discussion anchored in the test results will provide us with answers to these two questions, and furthermore lead us to the insights we need to answer the problem defined.

Some of the hypotheses are motivated by statements in the sources, and others by empirical observations we have experienced in our research and treatment of the data. The common denominator is that they help to shed light on our problem defined.

### **5.2.1 The Motivation hypothesis**

We know that religious currents of large international proportions existed at the time Hauge had his revival. In section 2.1-2 we established that Puritanism and Calvinism were two Christian movements in which trade and lifestyle were significant elements. We also know that Hauge was inspired by the book of Johannes Taulers' revival. Thirdly, the city from which Hauge conducted his merchant activities, Bergen, was an international one at the time.

At the time Hauge started as an entrepreneur the economic conditions were turbulent in Norway, and the demand for jobs was high. In the description of Hauge, we notice that he believed that work was a blessing for people. We therefore think that his religious convictions played an important part in motivating him for his entrepreneurial endeavors.

The arguments presented above leads us to believe that: **Hauge was influenced by the aforementioned international religious movements in his theological views, which furthermore had significant impact on is motivation for becoming an entrepreneur and industrialist.** Conclusively, we establish this as our first hypothesis.

### 5.2.2 The Sources of Motivation hypothesis

In section 2.2 we examined a modern theory for sources of motivation for entrepreneurs. During his travels around in Norway, Hans Nielsen uncovered a lot of business opportunities originating from the discovery of extensive amounts of human resources, natural resources and the possible utilization of new production methods.

The effectuation process is one in which the entrepreneur initially maps out all available resources he is aware of and has access to. When he has uncovered all potential resources, he starts to identify business opportunities and develop business ideas on the basis of the available resources. The development process is characterized by a significant degree of randomness, and one from which a wide variety of new business ideas may spring out from the initial one(s).

Through our research of Hauge we are left with the impression that this is in fact the type of process that his entrepreneurial initiatives have originated from. Consequently we establish the following hypothesis: **Hauge was an effectuator.**

### 5.2.3 The “Network of Friends” hypothesis

We believe that the network Hauge established through his travels and preaching activities was something different from an ordinary business network.

We define a “network of friends” as one in which the business concept of “arm’s length” does not apply. Contrary to traditional business relationships, the financial transactions in the “network of friends” are characterized by a remarkable trust and care. Examples come across in our research that illustrates these characteristics are; Hauge and the Haugeans did not charge any interest when people within the “network of friends” lent each other money, they did not demand any collateral in backing the loans and Hauge was more preoccupied with accounting for money borrowed than money lent.

Our third hypothesis is that: **Hauge established a “network of friends”.**

#### 5.2.4 The Degree of Involvement hypothesis

When examining Hauge's industrial projects in section 4.2 we uncovered a pattern of how he went about to develop the different businesses. We have identified five reoccurring elements that Hauge was or was not responsible for in each individual project; idea, financing, risk sharing, initiation of operations, and management of operations.

1. Idea: Hauge had the initial business idea.
2. Financing: Hauge provided project financing from some source in the "network of friends" other than the person set to manage operations.
3. Risk sharing: Hauge took an equity stake in the project or provided the financier with a guarantee against an overall loss on the investment.
4. Initiation of operations: Hauge brought about someone with the technical knowledge and abilities to ensure that operations went smoothly, or instructed someone if he himself was capable.
5. Management of operations: Hauge was directly involved in the management of operations in the business.

Hauge probably realized that due to the time constraint he had to prioritize which elements of each business he could allow himself to be involved in. We believe that he applied one decision criteria; how critical was his involvement in the element for the success of the project? Hence, our fourth hypothesis: **Hauge was merely involved in an industrial start-up to the extent that his involvement was critical to the success of the project.**

### 5.2.5 The Frequency hypothesis

In section 4.4.1 we looked at time series of transaction entries as a proxy for the business activity of Hauge and other Haugeans. 36 financial transactions in the peak year 1804 indicate frequent activity, but most of the years in the dataset have few registered transactions. This however, may be due to factors limiting Hauge's opportunity to conduct business, contrary to a conscious choice. The charts do not imply a strong correlation between the simple time series, and we encounter some puzzles related to the frequency of data when assuming that the time series are interlinked. Nevertheless, from the sources we examined we have reason to believe that there was a strong linkage between the two. This belief is, despite the puzzles of the time series, supported by the fact that the peak year of the two time series coincide. We therefore formulate our sixth hypothesis: **The frequency of business activity of Hauge was high at times when his living conditions made it possible, and his business activity was strongly interlinked with the business activity of other Haugeans.**

### 5.2.6 The Banker hypothesis

We know that Hauge did not come from a wealthy family, and that he had little or no equity at the time when he decided to become an entrepreneur and industrialist. How was it then possible for him to engage in all the projects described in section 4.2, when there was neither a functioning monetary system nor financial sector at the time? Adding the fact that these were turbulent economic times makes the financial activity illustrated in section 4.4.1-2 even more impressive. In section 4.2, it seems as if Hauge often left the risk related to taking equity stakes in the projects to friends and business acquaintances. Nevertheless, section 4.4.1 suggests that Hauge himself was frequently involved in business transactions (in particularly in the years of 1802, 1804 and 1820). Section 4.4.2 specifies that the activity was not limited to minor transactions, but in fact accumulates to debt financing acquired of approximately 2008 NOK 13.8 million (685 AWEs) for the time period as a whole. The fact that total financing excessively exceeds total investments for Hauge, while the opposite is the case for Haugeans, also suggest that Hauge may have had a role in the Haugean businesses not limited to being the idea generator and project initiator. While Hauge often left the equity stakes for the people running the daily operations of the businesses, it seems as though he often

acted as a financial intermediary to compensate for the missing banking sector at the time. We therefore establish the hypothesis: **Hauge filled a function as a financial intermediary between the members of his network with funds to invest, and members with the willingness to invest in the businesses emerging from Hauge's ideas.**

### **5.2.7 The Large-scale Investor hypothesis**

The substantial economic activity, both in terms of scale and frequency, does however not seem to have been limited to banking. According to the figures in section 4.4.2, Hauge directly invested approximately 2008 NOK three million in fixed assets. In addition, he was indirectly involved in total investments of approximately 2008 NOK 18 million through other Haugeans. The relationship between debt and equity financing acquired also suggest that he was willing to take excessive risk in terms of a high D/E – ratio. These arguments motivate our final hypothesis: **Hauge was one of the largest investors in Norway at the time his economic activity peaked, and he was willing to take extensive risk in terms of gearing his investments.**

## 5.3 Testing of hypotheses

### 5.3.1 The Motivation hypothesis

The hypothesis states that Hauge was influenced by contemporary religious movements, and that this was significant for his motivation to become an entrepreneur and industrialist. In the following analysis we intend to test this hypothesis.

We know that Hauge had a radical revelation when he was 25 years old. He started his travels around Norway, and also visited Copenhagen. In Denmark there were several printing houses, and a good chance that Hauge could print his books at a lower cost than he currently did in Norway. We also know that he was fascinated by the book Taulers wrote about his revelation. This indicates that he was aware of the international religious currents present in his contemporary time in Europe.

The Puritans were often merchants, and traded around Europe including Norway. *Merchant in Bergen* mentions that Hauge wanted to start as a merchant because he had discovered that merchant activity had a large profit potential. He intended to reinvest the profits in new industry i.e. mills and paper factories. It is very possible that Hauge discovered the Puritans trading activity on one of his trips in Denmark. We argue that these ideas were inspired by Puritan thoughts ref. 2.1.2.

Hauge found work to be a blessing for people. He stressed the importance of an ascetic lifestyle and that people should make the most of their work potential. These are thoughts very typical for both Puritans and Calvinists. People were not supposed to enjoy any luxury, but rather show diligence in the work they did.

As a merchant in Bergen, Hauge lived an ascetic life. The book *Merchant in Bergen*, describes the life he lived in detail. The interesting with this description is that there were no substantial differences between the way Hauge lived and the way in which his employees lived. This is illustrated by the fact that the most noticeable difference was that while Hauge had a blanket on his bed, his employees had none. Hauge ate cheap food and was very peculiar with what he spent money on. He ensured that most of his earnings were reinvested in new businesses. This way of life resembles Calvinists and Puritans at the time, and increasingly support that Hauge was in fact inspired by these

movements.

Another supporting argument for the hypothesis relates to the Brick Factory in Kristiansand. Hauge discovered this closed factory by coincidence and thought that it was a shame that its potential value creation should remain unutilized. He wrote a man in his network of friends and asked him to purchase the factory. As the man agreed to do this, he had to work day and night in ten years of drudgery before the factory became a success. Firstly, Hauge's reoccurring eagerness to utilize unused resources is likely to have its origin in Puritan thought. Secondly, the fact that a man is willing to sell his family farm and giving up a relatively secure social and financial state, merely because Hauge tells him to, does not resemble a normal state of mind. The way in which this Haugean both took on the challenge and in fact succeeded, reminds of religious motivation for work similar to that of the Puritans.

We have established in 4.1 that Hauge reinvested his money when he profited on his investments. A good example on how eagerly he reinvested his money was his shipping activity. He "earned a quick buck" on some of shipping trades, and could have easily increased his personal wealth and lived more luxurious. Hauge rarely took equity stakes in the businesses he started. This means that he did not take part in the profit sharing either. This action and consequence illustrate his motivation, and resemble Puritan thought that personal wealth was something negative (ref 2.1.2).

Another possible explanation why he rarely took equity stakes relates to his fear of possible governmental confiscation of his property. The government may have wanted to do this because they claimed that his property was a result of illegal Christian activities.

Through the source, *Letters from Hans Nielsen Hauge*, we notice that Hauge often writes about religious issues in the first part of the letters, while he discusses business issues as a note in the end of the letters. Hauge rarely devotes an entire letter to business issues. We argue that this illustrates how religious beliefs and business went hand in hand in Hauge's world, a trait similar to that of Puritanism.

Another interesting observation from our dataset is the fact that Hauge usually neither

charged nor was charged any interest on loans. If any interest was charged at all, it was at a modest rate. This may be related to the Calvin's view on interest: "Calvin claimed that money should be lent to people that really needed them, like people in dire need without any opportunity to cover interest charges. For debt to people in more of a normal financial state, he suggested that a modest interest rate of five percent should be applied<sup>52</sup>. In the first letters we saw that Hauge while he was poor received huge amounts in loans against debt certificates. The debt certificates never mentioned any interest. In letters that have been written later, we notice that interest due by Hauge occur in some occasions.

## **Conclusion**

On the basis of the analysis conducted in this section, we argue that the hypothesis is plausible and conclude that Hauge was influenced by contemporary religious movements, and that this was significant for his motivation to become an entrepreneur and industrialist. We also conclude that the arguments have a bias towards that he was more a Puritan than a Calvinist.

### **5.3.2 The Sources of Motivation hypothesis**

By briefly reviewing Hauge in light of Sarasvathy's theory about the causation and effectuation processes as sources of motivation for entrepreneurs, we established a hypothesis stating that Hauge used an effectuation process when he founded new businesses. In the following analysis we return to the projects described in section 4.2 in order to challenge this hypothesis, and arrive at a conclusion whether the hypothesis can be accepted or have to be rejected.

While he traveled in Norway as a layman preacher, Hauge established an extensive network of friends and followers. The most impressive characteristic of this network was the level of trust they had in Hauge. This extensive network gave Hauge access to a large amount of human resources. When Hauge realized that his call in life besides

---

See Haas, Guenther H. (1997). *The Concept of Equity in Calvin's Ethics*. Waterloo, Ont., Canada: Wilfrid Laurier University Press. ISBN 0889202850., pp. 117ff.



acting as a layman preacher was to create jobs and businesses, he was already in a “large kitchen full of ingredients”.

### **Hauge’s merchant activity**

To what extent Hauge had a clear specific goal when he started to create businesses is up for discussion. He began as a merchant in Bergen because he wanted to finance new industry. This reminds more of a causation process than an effectuation process: “the causation process takes a particular effect as given and focus on selecting between means to create that effect”.

However, when we take a closer look at the merchant business, we discover that Hauge had a lot of his focus on finding new business opportunities and reducing risk for his network of friends and traders across Norway. According to the theory, the effectuation process focuses on the controllable aspects of an unpredictable future. Hauge focused on the controllable aspects of the unpredictable future of his business when he mailed members of his network and informed them about prices, the current market situation and production methods in the fishing industry. Consequently he reduced the risk of shipping goods that potentially could end in a loss. Additionally he ensured that he was shipped goods for which there would be high demand in Bergen.

The theory also tells us that an effectuator prefers options that create more options in the future over those that maximize returns in the present. This is typical for Hauge’s duty as merchant. When he arrived in the northern part of Norway, he discovered a lot of poor villages. To help these villages he sent cheap food, so they could eat more nutritiously and consequently work harder. He furthermore benefited from receiving cheap goods back from these same villages when the people were able to send goods. Another example is the tavern he challenged Solem to establish. This tavern would also work as a trading station and ease the shipping of goods to the local market and the shipping of local goods to other parts of the country.

The establishing of the trading station also supports the view of Hauge as an effectuator that creates strategic alliances and pre commitments from stakeholders to reduce or eliminate uncertainty.

### **The Brick Factory at Eeg**

The purchase of the brick factory at Eeg illustrates very well that Hauge was an effectuator. As mentioned earlier, he discovered this factory on a trip through Kristiansand, and decided that he should buy this factory. This is very typical for an effectuator, getting new ideas and establishing new businesses as he goes along. The way in which he finds someone else to operate this factory is also a good example of how he acts like an effectuator. According to the theory, an effectuator uses the given set of means he has. This is in fact what Hauge did in most cases. He wrote to one of his friends and asked him to sell his family farm in order to finance the purchase of the factory. If he was more a causator than an effectuator, he would have probably broadly announced the available position and searched for the perfect candidate to operate the factory, instead he utilized a human resource, a mean, already available.

### **The printing house in Kristiansand**

This is another case that describes HNH as an effectuator. One of his friends in Trondheim told him about this opportunity and the fact that this would be a good investment for him, because it would entitle him to print his books more cheaply. Acquiring this printing house would increase future profits as he could print his books using the paper he was already producing in his paper factories. Like in the case of the brick factory at Eeg, Hauge convinced one of his friends to sell his farm, in order to buy and operate the printing house.

### **Mr. Loose's residence**

When Hauge came to Bergen, he discovered that he needed a house in order to get a trading license. He came in touch with a man called Loose, who helped him with the issue of overcoming the entry barrier into the trade profession. Hauge is apparently more focused on strategic alliances than competitive analysis when establishing himself as a merchant in Bergen. Loose also became Hauge's most trusted coworker in this city, and he helped Hauge to become a respected merchant in Bergen. This strategic partnership proved to be of great value to them both, because while Loose helped Hauge when he had financial problems, Hauge helped Loose when he experienced a personal depression.

### **Hauge's shipping activity**

Hauge established a fleet of merchant vessels in order to aid him in his shipping of goods. However, in several cases he resold the vessels even before he'd had time to put them to work. The interesting characteristic of his shipping activity is that there seems to have been little or no plan behind these investments in terms of duration. One example relates to the time when Loose bought a frigate for Hauge which he resold two weeks later, because they felt that the proposed deal was too good to decline. This illustrates how an effectuation process is the source of motivation for how Hauge and in this case Loose conduct business. It also illustrates how an effectuation process may lead to the result that the initial business idea can create several different types of other businesses as one goes along. On the road one may come across new business ideas that in some cases work even better than the initial business. Hauge had gradually moved from investing in ships to transport his goods and onto shipping speculation. We argue that this turn of events was due to his nature as an effectuator rather than a causator.

### **Conclusion**

In the analysis of this section we have challenged our hypothesis that the effectuation process has generally been the source of motivation when Hauge has started new businesses. It seems however as if a causation process was the source of motivation initially when Hauge decided that his mission in life besides travelling around as a layman preacher was to create jobs for people, and wealth which would improve the way of life in Norway. Nevertheless on the basis of the arguments stated above, we conclude that in Hauge's work and life as an entrepreneur, an effectuation process has generally been the source of motivation.

### **5.3.3 The Network of Friends hypothesis**

The first argument we identified that supports the hypothesis relates to Mr. Loose's residence. Mr. Loose proves an enormous trust in Hauge when he signs the legal rights of his house over to Hauge for an amount likely to be well below market value. This is an example of a transaction not conducted at arm's length. The funds were probably never transferred, and Mr. Loose was allowed to keep on living in the house. Nevertheless, Mr. Loose was still at the risk that Hauge could decide to use the house

himself, and in that case Mr. Loose would only have been eligible for the sales price agreed upon.

The second argument relates to the many transactions conducted in 1804. Hauge borrows an enormous amount of money from a number of different people at a time when there is no functioning banking sector in Norway. Nearly all the transactions are debt certificates without any sort of interest claims. Firstly, this illustrates that a substantial number of people had an almost naïve confidence in Hauge, and believed that he would succeed to the extent that he would be able to repay their loans. Secondly, the lack of interest charged is another example that transactions within the network were often conducted at odds with the arm's length principle. Thirdly we see that people send him large amounts without claiming any debt certificate or security on the amount. Storemoen sent him 3500 RD, when he wanted Hauge to buy Svanøe farm for him, without claim any debt certificate. Forth we have Mr. Loose and Høydahl that paid all bills for Hauge in Bergen when he was broke, without accounting these amounts. We believe that these creditors were members of the Hauge network of friends.

The third argument supporting a network of friends relates to the descriptions of the industrial development he was involved in. There are several cases where Hauge wanted to start a business and needed a person to manage it. He then wrote letters to people and challenged them to sell their liquid assets, move and invest into the project. The interesting point is that these people were rarely friends from his childhood. They were normally people he had met during his travels. These people took on the risk related to a reduction in social and financial security due to their unlimited faith in Hauge. We claim that the people would not have taken this effort to fulfill Hauge's wishes had they not been a part of the network of friends, but rather ordinary business contacts.

When analyzing the letters Hauge wrote, we notice that a huge part of the letters begins with: "Dear friends in ....." Receivers of the letters comprise preachers, business information and personally correspondence. We argue that the content of the letters constitute information neither fit for simply a friend or a business contact, but rather a

person who are both. Consequently, this argument also supports the existence of a network of friends.

**Conclusion**

The combined strength of the arguments presented above leads us to the conclusion that a network of friends did in fact exist.

**5.3.4 The Degree of Involvement hypothesis**

Although Hauge basically controlled each element of his merchant- and shipping activity, he was not always involved to the same extent with his various investment projects.

The table below systemizes the actual level Hauge participated in these distinct businesses.

Participation/business	Svanøe Manor	Looses Residence	Mill in Aadalen	Paperfactory at Fennefoss	Brick factory at Eeg	HNHs work as a merchant	Shipping speculations	The printing house	Coppermine in Vingelen	Paperfactory at Eiker
HNH had the Idea	Yes	Yes	N/A	Yes	Yes	Yes	No	Yes	Yes	Yes
HNH organized the Financials	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes
HNH Financed the whole project	No	Yes	No	No	No	No	No	No	No	No
HNH financed a share of the project	No	No	No	No	No	Yes	Yes	Yes	No	Yes
HNH organized security for the business	Yes	Yes	N/A	No	No	Yes	N/A	N/A	No	N/A
HNH organized the business	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
HNH initiated operations	No	No	No	No	No	N/A	N/A	Yes	No	Yes
HNH organized who should operate it	Yes	Yes	N/A	Yes	Yes	Yes	N/A	N/A	No	Yes
HNH helped the business with employees etc	Yes	No	Yes	No	No	Yes	N/A	N/A	No	Yes

While the merchant business can be viewed as ‘the tree’ in his economic activity, it can be argued that the shipping activity and all the different industry projects he initiated represents branches attached to that tree. In relation to the introduction and the table above, we will move on to have a closer look at the areas we believe Hauge has assisted through a critical phase.

## **The Ideas**

In all the different businesses we have looked at, we conclude Hauge was the man with the main ideas and visions. He had travelled around Norway, been to Copenhagen and had become inspired by many different types of industries. It seems reasonable to assume that many of the ideas he came up with and the knowledge he acquired was obtained while travelling. We know that the paper mills in Copenhagen fascinated him and that he believed there was even greater potential for this kind of industry in Norway rather than Denmark.

Moreover, we think that he deliberately used his network to discover places where he could establish his businesses. The so called 'friend network' we claim existed, was an extremely important resource when he set up new businesses, and we believe that Hauge recognized the value of this. The idea level was very critical for the business because without any idea, it is difficult to start a business. There might be other people with the same ideas as Hauge, but he had the confidence and the network to put the idea into reality.

## **The Financing**

The table indicates that Hauge did not have the financial muscles himself to finance the large investments. Although he rarely financed the business out of his own pocket, he often organized the financial transactions by establishing a link between the different stakeholders.

Hauge's activity as a layman preacher resulted in friends and followers having a very strong faith in him and his word, and therefore helped him establish an extensive network across Norway. His trust among people may have helped him get finances from his friends for new businesses. The finance was of course very important for the business, without money it was hard for them to start the industry, and the tough economical times at the moment wasn't of any help.

It seems like he was well aware of his position and the fact that finance was a critical factor, so therefore he actively participated in establishing funding.

## **Risk sharing**

The only case where we've found a clear indication of Hauge offering security, is when he convinced Storemoen to buy Svanøe farm. In this incidence, Storemoen refused to solely carry the risk of the investment, so Hauge said he would give him an economic guaranty. We find this transaction very interesting, because this is the only instance where the Haugeans would not carry the risk themselves. We are not sure whether it was because Storemoen had less faith in Hauge, less faith in the project, or because he may have been more risk averse than other Haugeans. However, we believe Hauge regarded this being extremely critical for the business and therefore he decided to directly participate in it.

## **Initiation of operations**

There is one example were we know Hauge contributed with helping people improve their technical skills. Also in this case we would say it was critical for the success. In the printing house in Kristiansand we know that Bacherud had problems with the printing. Hauge had helped Grøndahl get an education in the art of printing. He therefore became an important resource for Bacherud. This was very critical for the operation as Bacherud had large problems with the printing he wished to sell. However, with help and the right skills needed the printing house turned out to be a success.

## **Management of operations**

When Hauge discovered a new business opportunity, he contacted people within his network he thought would be good candidates for operating the business. An example is the brick factory at Eeg, where Ole Eyelsen sold his family farm and bought the factory. We believe management was critical, since the factory had gone bankrupt several times. After several years of hard work for Eyelsen, the factory eventually became established as a successful business.

The print shop in Kristiansand is another and similar example. This was an opportunity to produce books at a low cost. Mr Bacherud was challenged by Hauge to buy and manage the printing house. As mentioned earlier in 4.2.6 there were critical complications, however, Hauge helped him out.

He also organized resources for the businesses he started. He employed people to the business, like in the case of Svanøe farm.

We also mentioned in 4.1 about the time he travelled to the northern part of Norway, arriving in a very poor village. He then decided shipping food at a low price so that people living there could eat more nutritiously. This was clearly done in an effort to make them work harder and to build up and strengthen the village. We regard this as another situation where Hauge took action in a critical situation.

## **Conclusion**

The results of the analysis of this section reinforce the fact that Hauge was strongly involved with the businesses he initiated, especially when it came down to handling critical factors. In the table and through the examples we've mentioned we can see that he participated each time at the so called 'idea level', as well with the critical factors in the businesses. The arguments strongly indicate that he was the individual handling the critical factors. We therefore conclude that he was merely involved in an element of the project only if it was crucial for the success of the business.

### **5.3.5 The Frequency hypothesis**

#### **Hauge's imprisonment**

In chart 4.1 we see that Hauge's business activity plummeted after the peak year of 1804, and was very limited in the following years. This is likely to be due to his imprisonment which started October 25<sup>th</sup> 1804 when he was taken into custody at Hokksund by the district sheriff of the area, Gram<sup>53</sup>. From the time of imprisonment and till the sentence in the case against him was passed, December 4<sup>th</sup> 1813, it took ten years<sup>54</sup>.

---

<sup>53</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 288, AS John Griegs Boktrykkeri Norway: Bergen

<sup>54</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 308, AS John Griegs Boktrykkeri Norway: Bergen



Even though he at this point was released from prison, our dataset indicate that his involvement in economic activity remained low until 1820, which represents the final year from which we have entries in the Hauge subset. This may be due to the difficulty of continuing doing business after the authorities had taken arrest in his assets, and because his reputation in the business environment is likely to have taken a fall from the imprisonment and subsequent trial.

### **Poor health and poor communications**

Though there is clearly no substantial activity in the period, our dataset indicates that despite being imprisoned in the period October 1804 – December 1813, Hauge was still able to conduct some business. He was suffering from poor health due to poor conditions in prison and had difficulty in corresponding with business associates due to poor communications. Considering this, it is nothing less than impressive that any activity took place at all. Nevertheless, this is in accordance with the picture painted of Hauge, reflected in all the sources we have researched, as a determined man with a need to be involved in doing business,.

Since Hauge was involved in little economic activity both while imprisoned and the years following his release, few business transactions were referred to in the letters. This is likely to be the reason why we have merely two entries in the Haugean subset after 1806.

### **The immediate years following the imprisonment**

The lack of entries in 1805 may be due to the fact that immediately after his imprisonment Hauge neither had the time nor energy to be involved in business activity. The fact that we registered seven entries for Haugeans in 1806, but none for Hauge may reflect that at this point Hauge had regained the time and energy to initiate projects for other Haugeans, but since he was imprisoned he was forced not to directly engage in the investment- and financing activities of the projects.

### **The puzzles of 1803 and 1820**

We have not found a clear-cut explanation why there are few entries linked to Hauge in 1803, while 24 percent of the entries linked to Haugeans occurred this year. This may

be so because a lot of Hauge's activities this year were limited to finding projects for other Haugeans, or that he may have been preoccupied with following up existing businesses. Another possible explanation is that he may have been focusing on his trading- and shipping activity this year, and hence spent little time on establishing new businesses.

An explanation of the 1820 puzzle was found when examining the entries in more detail. Apparently all eight entries from this year are refinancing of debt due to a liquidity crisis. Thus these entries are neither likely to represent financing of start-ups, nor be interlinked with investment- and financing activities of other Haugeans,

### **The linkage of business activity**

The business activities of Hauge and Haugeans are more interlinked than represented by the number of entries included in both time series. The reason why merely four of the 94 entries in our dataset are linked to both is the fact that information in our sources for the transactions is limited, and the fact that we demanded strong evidence of linkage to link an entry to both. In section 5.3.4 we saw that Hauge often had the initial idea and convinced other Haugeans to engage in the projects, but still we lack strong evidence that Hauge was directly involved in the investment- and financing activities as represented in our dataset.

We considered conducting a regression analysis defining registered entries for Hauge as the dependent variable, and registered entries for Haugeans as the independent variable. However, due to the limited number of total entries we realized that a regression analysis as described above would probably not produce any results with statistical significance. Nevertheless, we believe that the analysis we have conducted where we have compared time series of frequency of entries in our dataset is still valuable in showing that there is a linkage between Hauge's business activity, and the business activity of other Haugeans. This hypothesis is also supported by the analysis in section 5.3.4.

## **Conclusion**

On the basis of the analyses we have conducted in this section, we argue that the frequency of economic activity involving Hauge, at the times when his living conditions allowed it, was quite high. Even at the time he was imprisoned he was able to continue doing business to a certain extent. This illustrates the strong motivation and determination he possessed. We intuitively believed there to be a strong linkage between the activity of Hauge and other Haugeans, a belief we find is strongly supported by our analyses. We conclude that the strong interlink makes it reasonable to include the entries not directly linked to Hauge in the analysis of frequency, even though the initial question we asked in this section was limited to Hauge. We therefore accept the frequency hypothesis.

### **5.3.6 The Banker hypothesis**

#### **Hauge – the banker**

Comparing the tables 4.2 and 4.3 suggests that Hauge fulfilled the role as a financial intermediary both within the Hauge sphere of investors and entrepreneurs, and beyond. Direct loans account for 40 percent of the total investments in the Hauge subset, while the extension of loans in the Haugean subset is marginal (< 0.1 percent).

Throughout his active period in business, Hauge extended loans of 103 AWEs (about 2008 NOK 1.9 million) according to our data. Still, the actual figure is likely to be even higher, since Hauge had a tendency to better account for debt owed than loans due<sup>55</sup>. Table 4.4 states that the combined entity of Hauge and other Haugeans merely extended loans of 49 AWEs. Conclusively, about half of the loans extended by Hauge were received by other investors within the Hauge sphere.

A supporting argument for the understatement of loans extended is the mismatch between funds raised and investments made. Table 4.2 shows that Hauge raised an astonishing amount equal to 716 AWEs of accumulated debt (about 2008 NOK 13.8

---

<sup>55</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 94, AS John Griegs Boktrykkeri Norway: Bergen

million). A large share of this was extended by friends and business acquaintances within the “network of friends”. He additionally raised 30 AWEs of equity. Even though he himself invested 138 AWEs in fixed assets, the residual amount of 474 AWEs can rarely have been all due to refinancing of existing debt. Section 4.2.9 describes numerous vessel investments made in 1803 and 1804. However, transaction amounts are merely stated for a few of these investments. Hence, they are not registered in the dataset and may explain part of the mismatch.

### **The overfinancing of accumulated investments**

Due to the nature of our sources, it was impossible to merely register entries reflecting complete transactions, in which the sum of debit- and credit entries, are zero.

Consequently, deviations between aggregated figures of investments and financing were inevitable. In table 4.4 we see that the aggregated investments are overfinanced by 33 percent. The substantial overfinancing has mainly two possible explanations.

Firstly, since our dataset is missing transaction entries, the aggregated figures on the debit- and credit sides are very unlikely to turn out the same. However, if the missing data was randomly distributed, this should not significantly affect the relationship between aggregated- financing and investments. Nevertheless, since Hauge had a tendency to better account for debt owed than loans due<sup>56</sup>, this effect may have increased the dominant role of debt entries in the dataset. This argument is supported by the fact that table 4.3 shows that the investments in the Haugean subset are merely underfinanced by 18 percent, while table 4.2 shows an overfinancing of 193 percent in the Hauge subset.

Secondly, due to the way we have treated the data, possible refinancing will appear as overfinancing. The period we analyze is characterized by a turbulent economic climate in which there was no functioning financial sector. This may have called for more

---

<sup>56</sup> Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen" p 94, AS John Griegs Boktrykkeri Norway: Bergen

frequent refinancing of investments than would be the case if all maturities of debt demanded had been easily available.

## **Conclusion**

We argue that the flow of funds between Hauge and other Haugeans illustrated and discussed above represents substantial evidence that Hauge fulfilled the role of a financial intermediary between members of the Hauge community, and thus ensured financing of the numerous industrial projects he initiated.

### **5.3.7 The Large-scale Investor hypothesis**

#### **A lower bound**

The investment figures merely represent a lower bound for the scale of the economic activity. In fact is quite likely that the actual figures should be higher, as quite a few of the transactions Hauge and other Haugeans were involved in during this period may not be described in the sources we have examined.

Nevertheless, the richness of details and extent of the transactions of major amounts found in our dataset provides us with some assurance that no transactions of major amounts are left out of our dataset. That is why we still find it useful to look at the aggregate figures of investments and financing in our dataset.

#### **The aggregate investments of the Hauge sphere**

We are not surprised to see from table 4.4 that most of investments (96 percent) are made in fixed assets. Hauge's overall aim was to conduct entrepreneurship and trade, while the banking activity (ref. 5.3.7) was just necessary because there was no functioning financial sector at the time. Table 4.4 indicates that Hauge was directly or indirectly involved in aggregate investments of at least (ref. the previous paragraph) 1108 AWEs (about 2008 NOK 22 million). The disaggregated data (ref. table A6 in the appendix) implies that the Hauge sphere was responsible for approximately 1.6 – 2.0 percent<sup>57</sup> of total investment volume in Norway in the peak year 1804. The

---

<sup>57</sup> Unpublished calculations conducted by Professor Ola Honningdal Grytten.

corresponding percentage for other years of substantial investment activity is approximately 0.7 – 1.0 percent<sup>58</sup>. Hauge has been given credit for establishing 6-7000 places of employment for people<sup>59</sup>.

### **Leverage ratio & risk**

Table 4.4 illustrates that 73 percent of the total financing is debt financing. This represents very high leverage both by contemporary and today's standards. However, we cannot interpret this figure as the debt share of aggregated investments, because the latter figure is exceeded by total aggregated debt. Still, it represents a proxy for the debt/equity-ratio implying high gearing.

In order to challenge the validity of the proxy figure we examined two investments from the dataset in detail. The purchase of Svanøe farm at 11 500 RD was financed by 83 percent equity, and this was in fact an investment not made directly by Hauge. The investment in Strudshavn farm at 10 500 RD was initially financed by 76 %, but was later refinanced at a lower share of debt/equity (1/1). The statistics of these two transactions supports the validity of the proxy figure, and thus provides us with better evidence that the Hauge and his followers highly geared their investments.

We notice a large deviation between the shares of debt financing in the two subsets (ref. table 4.2 and 4.3), namely 96 and 51 percent in the Hauge- and Haugean subset respectively. The explanation is simply that Hauge neither possessed a significant amount of equity when he became active, nor was he able to accumulate this throughout his active period, despite numerous successful start-ups. The reason for the latter is that Hauge rarely took equity stakes in these start-ups, neither did he charge an interest - spread or other charges on debt financing he arranged. Another possible explanation is that due to his reoccurring conflict with the courts, a share of his accumulated profits necessarily had to cover the associated fines. Conversely, other

---

<sup>58</sup> Unpublished calculations conducted by Professor Ola Honningdal Grytten.

<sup>59</sup> Hodne, F., "Verdiskapningen i manufaktur og industri i Norge 1817-1829", Grytten, O.H., (ed), Nordic Historical National Accounts, Fagbokforlaget Bergen 1999, p. 41-61

Haugeans were usually able to come up with some equity typically by selling the family farm.

The limited sources of equity also explain the need of a high debt-equity ratio in the finance of Hauge's investment- and banking activity. However, the 96 % share of debt to total financing is probably an overstatement of his actual ratio. The actual figure is likely to be lower because Hauge tended to be more peculiar with taking note of money owed than he was of funds received as gifts. Additionally, it does not account for the fact that some profits and loans repaid were reinvested, despite the argument that he rarely took equity stakes presented above. Nevertheless, there is no doubt that both his investments in fixed assets and banking activity was financed with high gearing of his equity.

A typical motivation for high leverage in investments is to increase the returns to equity. It is however more likely that the high leverage of the Haugeans was a result of depleted sources of equity. The examination of investments described in the previous paragraph indicate that the Hauge sphere initially raised as much equity finance as possible and only turned to debt sources of finance when all potential equity sources were exhausted. Conclusively, it seems as if it was the abundance of identified investment opportunities which was the driver of leverage in investments.

The discussion of refinancing above implies an adverse mismatch between long-term investments and short-term debt which on top of the high leverage further increases the risk of bankruptcy. Nevertheless, a substantial fraction of debt taken on within the Hauge sphere was due to members within the "network of friends". This greatly reduced the risk related to not being able to refinance expiring debt, because one of the mantras within the "network of friends" was not to allow a member to go bankrupt if it was possible to avoid it.

### **The distribution of economic activity across the time dimension**

Chart 4.9, illustrating the aggregated investment- and financing figures of the Hauge sphere, indicate that even if Hauge was involved in economic activity during a time period of more than 20 years, the great majority of funds raised and invested occurred within a period of six years (1802-1808).

## **A detailed look at the most significant years**

Turning to table A1 in the Appendix allows us to look closer at three of the five years (1802, 1804, 1806 and 1820) comprising most of the registered transaction entries. Unfortunately we could not trace the 1803 and 1806 entries back to a specific month.

More than half of the entries for 1802 occurred in December, and 75 percent took place in the 4<sup>th</sup> quarter. In two days (27<sup>th</sup> – 28<sup>th</sup>) we have registered six credit entries in which the largest- and smallest amounts corresponds to 16 and two AWEs respectively. In the same month we encountered an additional debt transaction for which the day was not specified. This amount was larger than the other six combined and constituted 40 AWEs. Conclusively, within a single month Hauge had been directly or indirectly involved in seven financial transactions collecting a total of 88 AWEs (approximately 2008 NOK 1.6).

The year 1804 shows a similar pattern. The registered entries are not evenly distributed throughout the year, but appear in just a few clusters of days typically lasting two-three days.

On the 10<sup>th</sup> and 11<sup>th</sup> of July, Hauge was involved in transactions constituting two granted inquiries of a combined total of 62 AWEs (approximately 2008 NOK 1.3 million). Another entry on the 11<sup>th</sup> represents an inquiry of debt that was not granted. The related amount corresponds to 213 AWEs (approximately 2008 NOK 4.6 million) and shows that despite succeeding in obtaining a substantial debt amount, Hauge was actually aiming for five times more. In one of the two transactions in the previous month he succeeded in taking on debt corresponding to 124 AWEs (approximately 2008 NOK 2.7 million).

Unfortunately, many of the transaction entries in 1804 are also impossible to link to a specific day or month, but we can conclude that the year as a whole was quite a spectacular one in terms of funds raised and investments made. Total investments made sum up to 465 AWEs (approximately 2008 NOK ten million), while transactions in which Hauge was directly or indirectly involved in raised funds of 1032 AWEs (2008 NOK 22 million).



In 1820, six out of the nine registered entries occurred on either of the two days, June 15<sup>th</sup> or October 20<sup>th</sup>.

### **The average value and standard deviation of transaction entries**

The tables 4.5-7 show the average value and standard deviations of the transaction entries in the Hauge subset, the Haugean subset and in the complete dataset.

The average debt entry of the latter is 20 AWEs. This may be interpreted in the sense that the average debt amount taken on by the Hauge sphere was equal to 20 annual wages at the time, a significant amount. The high standard deviation (28 AWEs) illustrate that there was a large variation in the amounts of debt taken on.

The average investments in fixed assets entry is 71 AWEs, about three and a half times the average debt entry. The variation in these investment entries are also correspondingly higher, illustrated by a standard deviation of 82 AWEs.

The average value and standard deviation for the equity- and loan entries are 26 (21) and ten (16) respectively.

In general it seems as if investments in fixed assets were generally financed by several sources of both debt- and equity, and that both investment- and financing amounts varied largely in size.

### **Conclusion**

The analyses related to the test of the large-scale investor hypothesis indicate that the Hauge sphere must have been of the larger investors in Norway the years 1802-1808, in particularly 1804. The high share of debt financing implies that Hauge and his fellow entrepreneurs were willing to take on extensive risk to carry out Hauge's business ideas for industrial projects. Considering that Hauge himself and many of the other Haugeans come from farms makes this even more impressive. The Haugean community generated a place of employment for some 6-7 000 people, an impressive figure even by today's standards.

## 6. Conclusion

In this thesis we had the intention to determine what was the motivation for and extent of Hauge's economic activity?

The acceptance of the motivation hypothesis means that we established that Hauge was influenced by contemporary religious movements and that this influence was significant for his motivation to become an entrepreneur and industrialist. We discussed both the influence of Puritanism and Calvinism, but concluded that Hauge appear to be more influenced by the former than the latter.

By accepting the sources of motivation hypothesis we have established that Hauge was in fact an effectuator. One implication of being an effectuator is that he was more concerned with job creation in the long run than profit maximizing in the short run.

A qualitative analysis of Hauge's involvement in selected industrial start-ups led to the acceptance of the corresponding hypothesis. This implies that Hauge was merely involved in elements of a start-up if his involvement was critical to success.

The frequency hypothesis stated that Hauge was frequently involved in economic activity at times when his living conditions allowed it. We concluded that the hypothesis had to be accepted, and that our analysis in fact indicates that Hauge to a certain extent even took care of business when his living conditions did not allow it, while he was imprisoned,

After conducting analyses of the flow of funds both within and beyond the group comprising Hauge and other Haugeans he conducted business with, we accepted the banker hypothesis. Hence, we concluded that Hauge fulfilled the function of a financial intermediary in order to ensure the financing of his industrial projects.

The acceptance of the large-scale investor hypothesis completed our task in providing answers to our problem defined. We confirmed our initial belief that Hauge and other Haugeans, whose business he was involved with, represent an investment volume in the peak years of their activity that make them one of the largest investors in Norway at

the time. We also discovered that they were willing to take on extensive risk to carry out their desired investment opportunities.

Our research and subsequent analysis was somewhat limited by the data we were able to obtain. If a more complete set of data may be collected, this will empower researchers to draw stronger inferences about Hauge's economic life. Hence, collecting more detailed and complete data and revisit the areas of research touched upon in this thesis, and perhaps beyond, is our challenge for further work on Hauge.

Another suggestion is to narrow the focus onto the qualitative entrepreneurial attributes of Hauge. His work may be viewed in light of modern social entrepreneurship, and studies of what kind of impact he had on the numerous local societies he came across may produce interesting results.

## References

### *Litterature*

Breistein, D. 1955, Hans Nielsen Hauge " Kjøbmand i Bergen", AS John Griegs Boktrykkeri Norway: Bergen, ref: "Merchant in Bergen"

Dyrvik, S., Fossen, A.B, Grønlie, T., Hovland, E., Nordvik, H., Tveite, S., 1979, Norsk økonomisk historie 1500-1970 Volume 1 1500-1850, Universitetsforlaget Bergen ISBN 8200019217

Gilje,N.,1994, Hans Nielsen Hauge og kapitalismens ånd, Norsk senter for forskning om ledelse, organisasjon og styring og Universitet i Bergen, Senter for europeiske kulturstudier. Bergen, Norway 6 februar 1994. Norway: Bergen

Hodne, F., "Verdiskapningen i manufaktur og industri i Norge 1817-1829", Grytten, O.H., (ed), Nordic Historical National Accounts, Fagbokforlaget Bergen 1999, p. 41-61

Kvamen, I., 1971, Brev frå Hans Nielsen Hauge Volume 1, Furuset Boktrykkeri 1971, Norway

Kvamen, I., 1972, Brev frå Hans Nielsen Hauge Volume 2, Furuset Boktrykkeri 1972, Norway

Kvamen, I., 1974, Brev frå Hans Nielsen Hauge Volume 3, Furuset Boktrykkeri 1974, Norway

Kvamen, I., 1976, Brev frå Hans Nielsen Hauge Volume 4, Furuset Boktrykkeri 1976, Norway

See Haas, Guenther H. (1997). *The Concept of Equity in Calvin's Ethics*. Waterloo, Ont., Canada: Wilfrid Laurier, University Press. ISBN 0889202850., pp. 117ff.

The letter is quoted in Le Van Baumer, Franklin, editor (1978). *Main Currents of Western Thought: Readings in Western Europe Intellectual History from the Middle Ages to the Present*. New Haven: Yale University Press. ISBN 0300022336

### *Articles*

Dew, N., Read, S., Sarasvathy, S.D., Wiltbank, R., 31 Januar 2008, Outlines of a behavioral theory of the entrepreneurial firm, *Journal of Economic Behavior & Organization*, Vol 66 (2008) 37-59

Eitrheim, Ø., 07.06.05, Fra Peder Anker til stabilitet i pengevesenet, Tilbakeblikk på norsk pengehistorie, Bogstad gård 07.06.05

Eitrheim, Ø., Klovland, J., Qvigstad, J.F., 2007 Historical Monetary Statistics for Norway – Part II

Sarasvathy, S.D, Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency, Academy of Management Review 2001 Vol 26 No2. 243-263

### **Web pages**

Bowen, K., 05.04.09., Berlin exhibit spotlights far - reaching influence of church reformer Calvin, <http://www.dwelle.de/dw/article/0,,4149744,00.html>, 17.12.09

Cappelen Leksikon, 2008, <http://www.caplex.no/Web/ArticleView.aspx?id=9328840>, 03.12.09

Economicexpert.com, <http://www.economicexpert.com/a/Puritans.htm>, 05.12.2009

Horgen, S.A., Europa, [http://aitel.hist.no/~svendah/horg1\\_com/fag/kultur/europa.html](http://aitel.hist.no/~svendah/horg1_com/fag/kultur/europa.html), 02.12.09

Kiefer, J.E., Hans Nielsen Hauge, Renewer of the church 28 mardh 1824, <http://justus.anglican.org/resources/bio/122.html>, 10.11.09

Kizer, K., N/A, Puritans, <http://www.nd.edu/~rbarger/www7/puritans.html>, 16.12.09

McMahon, Dr.C.M., 2009, Puritan Roots: A Brief Sketch of the Values of Puritanism, <http://www.apuritansmind.com/PuritanArticles/PuritanRoots.htm> , 16.12.09

Miller, P., 2003, Puritans and puritanism, Dictionary of American history, <http://www.encyclopedia.com/doc/1G2-3401803470.html> 03.12.09

Newadvent, N/A, Calvinism, <http://www.newadvent.org/cathen/03198a.htm>, 16.12.09

Norges Bank, 2006, [http://www.norges-bank.no/templates/article\\_\\_\\_\\_\\_25989.aspx](http://www.norges-bank.no/templates/article_____25989.aspx), 10.11.09

Ryken, L., 01.01.09, The Original Puritan Work Ethic, <http://www.ctlibrary.com/ch/2006/issue89/7.32.html>, 16.12.09

Ryken, L., 2009, *That Which God Hath Lent Thee , The Puritans and Money*  
<http://www.apuritansmind.com/Stewardship/RykenLelandPuritansAndMoney.htm>,  
16.12.09

Sander, K., 08.23.04, induktiv vs. deduktiv fremgangsmåte,  
<http://www.kunnskapssenteret.com/articles/2470/1/Induktiv-vs-deduktiv-fremgangsmate/Induktiv-vs-deduktiv-fremgangsmate.html>, 17.12.09

Studyworld, N/A., Puritan, Cavalier, and Frontier Cultures' Contributions To the American Character, <http://www.studyworld.com/puritan.htm> , 16.12.09

The inductive (scientific) Method, N/A,  
<http://www.batesville.k12.in.us/physics/PhyNet/AboutScience/Inductive.html>, 17.12.09

### ***Calculations***

Unpublished calculations conducted by Professor Ola Honningdal Grytten.

## Appendix

**Table A1 – Source data & calculated figures – Part 1**

Y	M	D	AWE	2008NOK	NOK	Debet	Currency	Credit	NOK	2008NOK	AWE	Inflation	NAW	2008AW	Source
1799	N/A	N/A	5	103 764	640	200	Riksdaler	0	-	-	-	16213 %	140	22 698	KIBp127
1800	8	20	-	-	-	0	Riksdaler	400	1 280	157 491	9	12304 %	150	18 456	V1p44
1800	N/A	N/A	-	-	-	0	Riksdaler	400	1 280	157 491	9	12304 %	150	18 456	KIBp76
1801	3	21	6	132 496	992	310	Riksdaler	0	-	-	-	13356 %	158	21 103	V1p75
1801	3	29	4	85 481	640	200	Riksdaler	0	-	-	-	13356 %	158	21 103	V1p82
1801	7	9	1	29 918	224	70	Riksdaler	0	-	-	-	13356 %	158	21 103	KIBp43
1801	9	17	-	-	-	0	Riksdaler	200	640	85 481	4	13356 %	158	21 103	V1p112
1802	4	1	20	364 031	3 200	1000	Riksdaler	0	-	-	-	11376 %	160	18 202	KIBp131
1802	7	8	-	-	-	0	Riksdaler	600	1 920	218 419	12	11376 %	160	18 202	V1p158
1802	7	10	-	-	-	0	Riksdaler	1000	3 200	364 031	20	11376 %	160	18 202	V1p158
1802	10	19	1	25 482	224	70	Riksdaler	0	-	-	-	11376 %	160	18 202	V1p167
1802	11	9	14	254 822	2 240	700	Riksdaler	0	-	-	-	11376 %	160	18 202	V1p172
1802	12	27	-	-	-	0	Riksdaler	200	640	72 806	4	11376 %	160	18 202	V1p175
1802	12	28	-	-	-	0	Riksdaler	200	640	72 806	4	11376 %	160	18 202	V1p176
1802	12	28	-	-	-	0	Riksdaler	200	640	72 806	4	11376 %	160	18 202	V1p176
1802	12	28	-	-	-	0	Riksdaler	500	1 600	182 016	10	11376 %	160	18 202	V1p176
1802	12	28	-	-	-	0	Riksdaler	800	2 560	291 225	16	11376 %	160	18 202	V1p177
1802	12	28	-	-	-	0	Riksdaler	500	1 600	182 016	10	11376 %	160	18 202	V1p177
1802	12	N/A	-	-	-	0	Riksdaler	2000	6 400	728 062	40	11376 %	160	18 202	V3p137
1802	N/A	N/A	-	-	-	0	Riksdaler	100	320	36 403	2	11376 %	160	18 202	KIBp128
1803	N/A	N/A	44	827 181	6 605	2064	Riksdaler	0	-	-	-	12524 %	149	18 661	KIBp110
1803	N/A	N/A	43	801 532	6 400	2000	Riksdaler	0	-	-	-	12524 %	149	18 661	KIBp148
1803	N/A	N/A	127	2 364 520	18 880	5900	Riksdaler	0	-	-	-	12524 %	149	18 661	KIBp138
1803	N/A	N/A	-	-	-	0	Riksdaler	1200	3 840	480 919	26	12524 %	149	18 661	KIBp139
1803	N/A	N/A	-	-	-	0	Riksdaler	800	2 560	320 613	17	12524 %	149	18 661	KIBp140
1803	N/A	N/A	-	-	-	0	Riksdaler	600	1 920	240 460	13	12524 %	149	18 661	KIBp141
1803	N/A	N/A	-	-	-	0	Riksdaler	3300	10 560	1 322 528	71	12524 %	149	18 661	KIBp142
1803	N/A	N/A	-	-	-	0	Riksdaler	2000	6 400	801 532	43	12524 %	149	18 661	KIBp148
1803	N/A	N/A	-	-	-	0	Riksdaler	300	960	120 230	6	12524 %	149	18 661	KIBp210
1804	3	28	-	-	-	0	Riksdaler	1800	5 760	822 705	38	14283 %	150	21 425	V1p232
1804	3	29	132	2 833 761	19 840	6200	Riksdaler	0	-	-	-	14283 %	150	21 425	V1p232
1804	5	17	-	-	-	0	Riksdaler	1500	4 800	685 587	32	14283 %	150	21 425	V1p249
1804	6	14	-	-	-	0	Riksdaler	300	960	137 117	6	14283 %	150	21 425	V1p253
1804	6	22	-	-	-	0	Riksdaler	5800	18 560	2 650 938	124	14283 %	150	21 425	V1p257
1804	7	3	-	-	-	0	Riksdaler	50	160	22 853	1	14283 %	150	21 425	V1p260
1804	7	5	-	-	-	0	Riksdaler	900	2 880	411 352	19	14283 %	150	21 425	V1p260
1804	7	10	-	-	-	0	Riksdaler	900	2 880	411 352	19	14283 %	150	21 425	V1p264
1804	7	11	-	-	-	0	Riksdaler	10000	32 000	4 570 582	213	14283 %	150	21 425	V1p221
1804	7	11	-	-	-	0	Riksdaler	2000	6 400	914 116	43	14283 %	150	21 425	V1p265
1804	12	N/A	-	-	-	0	Riksdaler	772	2 470	352 849	16	14283 %	150	21 425	KIBp63
1804	12	N/A	-	-	-	0	Riksdaler	800	2 560	365 647	17	14283 %	150	21 425	KIBp63
1804	12	N/A	-	-	-	0	Riksdaler	1315	4 208	601 032	28	14283 %	150	21 425	KIBp63
1804	N/A	N/A	7	153 115	1 072	335	Riksdaler	0	-	-	-	14283 %	150	21 425	KIBp98
1804	N/A	N/A	0	6 856	48	15	Riksdaler	0	-	-	-	14283 %	150	21 425	KIBp98
1804	N/A	N/A	-	-	-	0	Riksdaler	230	736	105 123	5	14283 %	150	21 425	KIBp98
1804	N/A	N/A	-	-	-	0	Riksdaler	100	320	45 706	2	14283 %	150	21 425	KIBp98
1804	N/A	N/A	-	-	-	0	Riksdaler	200	640	91 412	4	14283 %	150	21 425	KIBp98

**Table A2 – Exchange rates**

Period	Currency	NOK
1795-1813	1 riksdaler courant	3,2
1813-1816	1 rigsbankdaler	2
1816-1874	1 speciedaler	4

**Table A1 – Source data & calculated figures – Part 2**

Y	M	D	AWE	2008NOK	NOK	Debet	Currency	Credit	NOK	2008NOK	AWE	Inflation	NAW	2008AW	Source
1804	N/A	N/A	-	-	-	0	Riksdaler	150	480	68 559	3	14283 %	150	21 425	KIBp98
1804	N/A	N/A	-	-	-	0	Riksdaler	3200	10 240	1 462 586	68	14283 %	150	21 425	KIBp172
1804	N/A	N/A	-	-	-	0	Riksdaler	234	749	106 952	5	14283 %	150	21 425	KIBp172
1804	N/A	N/A	-	-	-	0	Riksdaler	1500	4 800	685 587	32	14283 %	150	21 425	KIBp172
1804	N/A	N/A	-	-	-	0	Riksdaler	2000	6 400	914 116	43	14283 %	150	21 425	KIBp172
1804	N/A	N/A	-	-	-	0	Riksdaler	300	960	137 117	6	14283 %	150	21 425	KIBp172
1804	N/A	N/A	-	-	-	0	Riksdaler	800	2 560	365 647	17	14283 %	150	21 425	KIBp172
1804	N/A	N/A	-	-	-	0	Riksdaler	600	1 920	274 235	13	14283 %	150	21 425	KIBp172
1804	N/A	N/A	-	-	-	0	Riksdaler	50	160	22 853	1	14283 %	150	21 425	KIBp172
1804	N/A	N/A	256	5 484 699	38 400	12000	Riksdaler	0	-	-	-	14283 %	150	21 425	KIBp152
1804	N/A	N/A	60	1 279 763	8 960	2800	Riksdaler	0	-	-	-	14283 %	150	21 425	KIBp136
1804	N/A	N/A	10	205 676	1 440	450	Riksdaler	0	-	-	-	14283 %	150	21 425	KIBp133
1804	N/A	N/A	-	-	-	0	Riksdaler	2000	6 400	914 116	43	14283 %	150	21 425	KIBp136
1804	N/A	N/A	-	-	-	0	Riksdaler	800	2 560	365 647	17	14283 %	150	21 425	KIBp136
1804	N/A	N/A	-	-	-	0	Riksdaler	96	307	43 878	2	14283 %	150	21 425	KIBp141
1804	N/A	N/A	-	-	-	0	Riksdaler	2000	6 400	914 116	43	14283 %	150	21 425	KIBp146
1804	N/A	N/A	-	-	-	0	Riksdaler	6000	19 200	2 742 349	128	14283 %	150	21 425	KIBp154
1804	N/A	N/A	-	-	-	0	Riksdaler	2000	6 400	914 116	43	14283 %	150	21 425	KIBp154
1806	N/A	N/A	205	4 085 125	33 600	10500	Riksdaler	0	-	-	-	12158 %	164	19 939	KIBp158
1806	N/A	N/A	-	-	-	0	Riksdaler	4999	15 997	1 944 909	98	12158 %	164	19 939	KIBp159
1806	N/A	N/A	-	-	-	0	Riksdaler	100	320	38 906	2	12158 %	164	19 939	KIBp128
1806	N/A	N/A	-	-	-	0	Riksdaler	3000	9 600	1 167 179	59	12158 %	164	19 939	KIBp159
1806	N/A	N/A	-	-	-	0	Riksdaler	2500	8 000	972 649	49	12158 %	164	19 939	KIBp159
1806	N/A	N/A	-	-	-	0	Riksdaler	3000	9 600	1 167 179	59	12158 %	164	19 939	KIBp159
1806	N/A	N/A	-	-	-	0	Riksdaler	2200	7 040	855 931	43	12158 %	164	19 939	KIBp159
1807	N/A	N/A	-	-	-	0	Riksdaler	1800	5 760	643 086	34	11165 %	167	18 645	KIBp172
1808	N/A	N/A	144	2 381 942	32 000	10000	Riksdaler	0	-	-	-	7444 %	222	16 525	KIBp132
1809	2	N/A	-	-	-	0	Riksdaler	300	960	50 217	3	5231 %	275	14 385	V2p20
1809	2	N/A	-	-	-	0	Riksdaler	300	960	50 217	3	5231 %	275	14 385	V2p21
1809	5	19	-	-	-	0	Riksdaler	1000	3 200	167 389	12	5231 %	275	14 385	V2p28
1813	8	30	-	-	-	0	Rigsbankdaler	6000	12 000	393 319	27	3278 %	440	14 422	V2p68
1813	8	30	3	39 332	1 200	600	Rigsbankdaler	0	-	-	-	3278 %	440	14 422	V2p67
1814	11	18	-	-	-	0	Rigsbankdaler	2000	4 000	109 103	7	2728 %	569	15 520	V2p86
1816	10	14	-	-	-	0	Spesidaler	2200	8 800	249 689	16	2837 %	566	16 060	V2p151
1817	8	7	38	699 675	28 000	7000	Sølvspeidaler	0	-	-	-	2499 %	729	18 217	V2p174
1818	7	22	-	-	-	0	Spesidaler	1800	7 200	238 810	13	3317 %	573	19 005	V2p224
1818	7	22	-	-	-	0	Spesidaler	1000	4 000	132 672	7	3317 %	573	19 005	V2p224
1818	12	7	-	-	-	0	Spesidaler	300	1 200	39 802	2	3317 %	573	19 005	V2p244
1820	4	15	-	-	-	0	Spesidaler	800	3 200	126 195	7	3944 %	444	17 509	V2p306
1820	6	15	-	-	-	0	Spesidaler	300	1 200	47 323	3	3944 %	444	17 509	V2p316
1820	6	15	-	-	-	0	Spesidaler	200	800	31 549	2	3944 %	444	17 509	V2p316
1820	6	15	-	-	-	0	Spesidaler	200	800	31 549	2	3944 %	444	17 509	V2p317
1820	9	28	-	-	-	0	Spesidaler	1100	4 400	173 518	10	3944 %	444	17 509	V2p328
1820	10	20	-	-	-	0	Spesidaler	100	400	15 774	1	3944 %	444	17 509	V2p282
1820	10	20	-	-	-	0	Spesidaler	100	400	15 774	1	3944 %	444	17 509	V2p282
1820	10	20	-	-	-	0	Spesidaler	8	32	1 262	0	3944 %	444	17 509	V2p282
1823	5	21	1	17 257	400	100	Spesidaler	0	-	-	-	4314 %	469	20 234	V3p14

**Table A2 – Exchange rates**

Period	Currency	NOK
1795-1813	1 riksdaler courant	3,2
1813-1816	1 rigsbankdaler	2
1816-1874	1 speciedaler	4



**Table A3 – Complete dataset – Part 1**

Year	Values		Classification			Completed
	AWE	2008 NOK	Hauge	Haugeans	Common	
1799	5	103 764	Fixed assets	N/A	Fixed assets	Yes
1800	9	157 491	Debt	N/A	Debt	Yes
1800	9	157 491	Equity	N/A	Equity	Yes
1801	4	85 481	Debt	N/A	Debt	Yes
1801	6	132 496	Loan	Fixed assets	Fixed assets	Yes
1801	4	85 481	Loan	Fixed assets	Fixed assets	Yes
1801	1	29 918	Fixed assets	N/A	Fixed assets	Yes
1802	40	728 062	Debt	N/A	Debt	Yes
1802	20	364 031	Debt	N/A	Debt	Yes
1802	16	291 225	Debt	N/A	Debt	Yes
1802	12	218 419	Debt	N/A	Debt	Yes
1802	10	182 016	Debt	N/A	Debt	Yes
1802	10	182 016	Debt	N/A	Debt	Yes
1802	4	72 806	Debt	N/A	Debt	Yes
1802	4	72 806	Debt	N/A	Debt	Yes
1802	4	72 806	Debt	N/A	Debt	Yes
1802	2	36 403	N/A	Debt	Debt	Yes
1802	20	364 031	N/A	Fixed assets	Fixed assets	Yes
1802	14	254 822	Loan	Fixed assets	Fixed assets	No
1802	1	25 482	N/A	Fixed assets	Fixed assets	Yes
1803	71	1 322 528	N/A	Debt	Debt	Yes
1803	26	480 919	N/A	Debt	Debt	Yes
1803	17	320 613	N/A	Debt	Debt	Yes
1803	13	240 460	N/A	Debt	Debt	Yes
1803	43	801 532	N/A	Equity	Equity	Yes
1803	6	120 230	Equity	N/A	Equity	Yes
1803	127	2 364 520	N/A	Fixed assets	Fixed assets	Yes
1803	44	827 181	Loan	Fixed assets	Fixed assets	Yes
1803	43	801 532	N/A	Fixed assets	Fixed assets	Yes
1804	213	4 570 582	Debt	N/A	Debt	No
1804	128	2 742 349	N/A	Debt	Debt	Yes
1804	124	2 650 938	Debt	N/A	Debt	Yes
1804	68	1 462 586	Debt	N/A	Debt	Yes
1804	43	914 116	Debt	N/A	Debt	Yes
1804	38	822 705	Debt	N/A	Debt	Yes
1804	32	685 587	Debt	N/A	Debt	Yes
1804	28	601 032	Debt	N/A	Debt	Yes
1804	19	411 352	Debt	N/A	Debt	Yes
1804	19	411 352	Debt	N/A	Debt	Yes
1804	17	365 647	N/A	Debt	Debt	Yes
1804	17	365 647	Debt	N/A	Debt	Yes
1804	17	365 647	Debt	N/A	Debt	Yes
1804	16	352 849	Debt	N/A	Debt	Yes
1804	13	274 235	Debt	N/A	Debt	Yes
1804	6	137 117	Debt	N/A	Debt	Yes
1804	5	106 952	Debt	N/A	Debt	Yes
1804	5	105 123	Debt	N/A	Debt	Yes

**Table A3 – Complete dataset – Part 2**

Year	Values		Classification			Completed
	AWE	2008 NOK	Hauge	Haugeans	Common	
1804	4	91 412	Debt	N/A	Debt	Yes
1804	3	68 559	Debt	N/A	Debt	Yes
1804	2	45 706	Debt	N/A	Debt	Yes
1804	2	43 878	Debt	N/A	Debt	Yes
1804	1	22 853	Debt	N/A	Debt	Yes
1804	1	22 853	Debt	N/A	Debt	Yes
1804	43	914 116	N/A	Equity	Equity	Yes
1804	43	914 116	N/A	Equity	Equity	Yes
1804	43	914 116	N/A	Equity	Equity	Yes
1804	43	914 116	N/A	Equity	Equity	Yes
1804	32	685 587	N/A	Equity	Equity	Yes
1804	6	137 117	Equity	N/A	Equity	Yes
1804	256	5 484 699	N/A	Fixed assets	Fixed assets	Yes
1804	132	2 833 761	Fixed assets	N/A	Fixed assets	Yes
1804	60	1 279 763	N/A	Fixed assets	Fixed assets	Yes
1804	10	205 676	N/A	Fixed assets	Fixed assets	Yes
1804	7	153 115	Loan	N/A	Loan	Yes
1804	0	6 856	Loan	N/A	Loan	Yes
1806	98	1 944 909	N/A	Debt	Debt	No
1806	59	1 167 179	N/A	Debt	Debt	Yes
1806	43	855 931	N/A	Debt	Debt	Yes
1806	2	38 906	N/A	Debt	Debt	Yes
1806	59	1 167 179	N/A	Equity	Equity	Yes
1806	49	972 649	N/A	Equity	Equity	Yes
1806	205	4 085 125	N/A	Fixed assets	Fixed assets	Yes
1807	34	643 086	Debt	N/A	Debt	No
1808	144	2 381 942	N/A	Fixed assets	Fixed assets	Yes
1809	12	167 389	Debt	N/A	Debt	No
1809	3	50 217	Debt	N/A	Debt	Yes
1809	3	50 217	Debt	N/A	Debt	Yes
1813	27	393 319	Debt	N/A	Debt	Yes
1813	3	39 332	Loan	N/A	Loan	Yes
1814	7	109 103	Equity	N/A	Equity	Yes
1816	16	249 689	Debt	N/A	Debt	Yes
1817	38	699 675	Loan	N/A	Loan	Yes
1818	13	238 810	Debt	N/A	Debt	Yes
1818	7	132 672	Debt	N/A	Debt	No
1818	2	39 802	Debt	N/A	Debt	Yes
1820	10	173 518	Debt	N/A	Debt	Yes
1820	7	126 195	Debt	N/A	Debt	Yes
1820	3	47 323	Debt	N/A	Debt	Yes
1820	2	31 549	Debt	N/A	Debt	Yes
1820	2	31 549	Debt	N/A	Debt	Yes
1820	1	15 774	Equity	N/A	Equity	Yes
1820	1	15 774	Equity	N/A	Equity	Yes
1820	0	1 262	Equity	N/A	Equity	Yes
1823	1	17 257	N/A	Loan	Loan	Yes

**Table A4 – Time series of Investments & Financing – Hauge**

Year	Debt		Equity		Total Financing		Fixed assets		Loan		Total Investments	
	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE
1799	-	-	-	-	-	-	103 764	5	-	-	103 764	5
1800	157 491	9	157 491	9	314 982	17	-	-	-	-	-	-
1801	85 481	4	-	-	85 481	4	29 918	1	217 977	10	247 896	12
1802	2 184 186	120	-	-	2 184 186	120	-	-	-	-	-	-
1803	-	-	120 230	6	120 230	6	-	-	827 181	44	827 181	44
1804	9 962 498	465	137 117	6	10 099 616	471	2 833 761	132	159 970	7	2 993 731	140
1805	-	-	-	-	-	-	-	-	-	-	-	-
1806	-	-	-	-	-	-	-	-	-	-	-	-
1807	-	-	-	-	-	-	-	-	-	-	-	-
1808	-	-	-	-	-	-	-	-	-	-	-	-
1809	100 433	7	-	-	100 433	7	-	-	-	-	-	-
1810	-	-	-	-	-	-	-	-	-	-	-	-
1811	-	-	-	-	-	-	-	-	-	-	-	-
1812	-	-	-	-	-	-	-	-	-	-	-	-
1813	393 319	27	-	-	393 319	27	-	-	39 332	3	39 332	3
1814	-	-	109 103	7	109 103	7	-	-	-	-	-	-
1815	-	-	-	-	-	-	-	-	-	-	-	-
1816	249 689	16	-	-	249 689	16	-	-	-	-	-	-
1817	-	-	-	-	-	-	-	-	699 675	38	699 675	38
1818	278 612	15	-	-	278 612	15	-	-	-	-	-	-
1819	-	-	-	-	-	-	-	-	-	-	-	-
1820	410 132	23	32 811	2	442 943	25	-	-	-	-	-	-
1821	-	-	-	-	-	-	-	-	-	-	-	-
1822	-	-	-	-	-	-	-	-	-	-	-	-
1823	-	-	-	-	-	-	-	-	-	-	-	-
Total	13 821 843	685	556 752	30	14 378 595	716	2 967 443	138	1 944 136	103	4 911 580	242

**Table A5 – Time series of Investments & Financing – Haugeans**

Year	Debt		Equity		Total Financing		Fixed assets		Loan		Total Investments	
	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE
1799	-	-	-	-	-	-	-	-	-	-	-	-
1800	-	-	-	-	-	-	-	-	-	-	-	-
1801	-	-	-	-	-	-	217 977	10	-	-	217 977	10
1802	36 403	2	-	-	36 403	2	389 513	21	-	-	389 513	21
1803	2 364 520	127	801 532	43	3 166 052	170	3 993 233	214	-	-	3 993 233	214
1804	3 107 996	145	4 342 053	203	7 450 049	348	6 970 138	325	-	-	6 970 138	325
1805	-	-	-	-	-	-	-	-	-	-	-	-
1806	2 062 015	103	2 139 827	107	4 201 843	211	4 085 125	205	-	-	4 085 125	205
1807	-	-	-	-	-	-	-	-	-	-	-	-
1808	-	-	-	-	-	-	2 381 942	144	-	-	2 381 942	144
1809	-	-	-	-	-	-	-	-	-	-	-	-
1810	-	-	-	-	-	-	-	-	-	-	-	-
1811	-	-	-	-	-	-	-	-	-	-	-	-
1812	-	-	-	-	-	-	-	-	-	-	-	-
1813	-	-	-	-	-	-	-	-	-	-	-	-
1814	-	-	-	-	-	-	-	-	-	-	-	-
1815	-	-	-	-	-	-	-	-	-	-	-	-
1816	-	-	-	-	-	-	-	-	-	-	-	-
1817	-	-	-	-	-	-	-	-	-	-	-	-
1818	-	-	-	-	-	-	-	-	-	-	-	-
1819	-	-	-	-	-	-	-	-	-	-	-	-
1820	-	-	-	-	-	-	-	-	-	-	-	-
1821	-	-	-	-	-	-	-	-	-	-	-	-
1822	-	-	-	-	-	-	-	-	-	-	-	-
1823	-	-	-	-	-	-	-	-	17 257	1	17 257	1
Total	7 570 934	377	7 283 413	353	14 854 347	730	18 037 929	920	17 257	1	18 055 187	921

**Table A6 – Time series of Investments & Financing – All data**

Year	Debt		Equity		Total Financing		Fixed assets		Loan		Total Investments	
	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE	2008 NOK	AWE
1799	-	-	-	-	-	-	103 764	5	-	-	103 764	5
1800	157 491	9	157 491	9	314 982	17	-	-	-	-	-	-
1801	85 481	4	-	-	85 481	4	247 896	12	-	-	247 896	12
1802	2 220 589	122	-	-	2 220 589	122	389 513	21	-	-	389 513	21
1803	2 364 520	127	921 762	49	3 286 282	176	3 993 233	214	-	-	3 993 233	214
1804	13 070 494	610	4 479 171	209	17 549 665	819	9 803 899	458	159 970	7	9 963 870	465
1805	-	-	-	-	-	-	-	-	-	-	-	-
1806	2 062 015	103	2 139 827	107	4 201 843	211	4 085 125	205	-	-	4 085 125	205
1807	-	-	-	-	-	-	-	-	-	-	-	-
1808	-	-	-	-	-	-	2 381 942	144	-	-	2 381 942	144
1809	100 433	7	-	-	100 433	7	-	-	-	-	-	-
1810	-	-	-	-	-	-	-	-	-	-	-	-
1811	-	-	-	-	-	-	-	-	-	-	-	-
1812	-	-	-	-	-	-	-	-	-	-	-	-
1813	393 319	27	-	-	393 319	27	-	-	39 332	3	39 332	3
1814	-	-	109 103	7	109 103	7	-	-	-	-	-	-
1815	-	-	-	-	-	-	-	-	-	-	-	-
1816	249 689	16	-	-	249 689	16	-	-	-	-	-	-
1817	-	-	-	-	-	-	-	-	699 675	38	699 675	38
1818	278 612	15	-	-	278 612	15	-	-	-	-	-	-
1819	-	-	-	-	-	-	-	-	-	-	-	-
1820	410 132	23	32 811	2	442 943	25	-	-	-	-	-	-
1821	-	-	-	-	-	-	-	-	-	-	-	-
1822	-	-	-	-	-	-	-	-	-	-	-	-
1823	-	-	-	-	-	-	-	-	17 257	1	17 257	1
<b>Total</b>	<b>21 392 778</b>	<b>1 063</b>	<b>7 840 165</b>	<b>383</b>	<b>29 232 943</b>	<b>1 446</b>	<b>21 005 373</b>	<b>1 058</b>	<b>916 235</b>	<b>49</b>	<b>21 921 608</b>	<b>1 108</b>