

1. “Modern” Business activities in “pre-modern” times: Kaesŏng Financial Practice(1786-1910)

Jun Seong Ho(The Academy of Korean Studies, Global Korean Studies)

Abstract

This paper explores the financial system from Kaesŏng Korea towards a historical knowledge of the interplay of innovative and organizational factors and the provocation which this compounded between the accounting and financial sectors. In this essay I will try to show the specific pattern of financial statements periodicity and continuity of operations with entrepreneurs involved the ginseng business that take a 6 years venture. The 6 years continuity of operation radically changed DEB technique and the structure of accounting books. The continuity of ginseng cultivation and manufacturing red ginseng needed specific financial data to find the profit annually available for dividends. They created sophisticated capital-earning accounting for capital maintenance.

I.

World history, especially in the field of social sciences, has usually been written from a Western perspective, commonly leaving out some details and important events that constitute elements of ancient cultures and civilizations from diverse parts of the world. The study of those cultures could enrich the currently existing knowledge in different academic areas. Especially this is the case of the financial institution and Double-Entry Book-keeping(DEB) method, a subject originally theorized from a Eurocentric point of view that linked the concepts of rationalism and capitalism. Indeed, rationalism was thought to be the *conditio sine qua non* for the birth of capitalism, which apparently did not exist in East-Asian societies, until it was introduced through Western influence at the turn of the twentieth century. Most social science literature on Korea stresses a fundamental dichotomy between the modern twentieth century and traditional Confucian society. Economic historians, in particular, have tended to emphasize the gap between Japanese colonial modernization and a “stagnant” Chosŏn dynasty. A social science approach looking backwards for the origin of modern Korean business and financial practices often fails to find much before the twentieth century. The effects of traditional business customs on modern Korean business networks and practices have frequently been overlooked, because of a failure to identify and understand traditional practices.

This paper discusses a business environment prior to the twentieth century during which rational, capitalistic activities emerged in Korea. It goes without saying that the economic development of a country or city depends heavily on whether that country or city has appropriate financial mechanisms and systems to regulate financial transactions. This paper aims to provide an in depth examination of the origin of economic development in Korea, which explores at great length aspects of the financial system, the accounting system, and the commercial customs of pre-1900 Kaesŏng. This knowledge is significant because it confirms the strengths of Korea's robust economic tradition and provides invaluable insight into more recent economic activity in Korea. This essay offers historical detail on topics such as currently understood cost and capital accounts, as well as the implementation of changes required by a constantly evolving economic environment.

Kaesŏng merchants engaged in international ginseng trade throughout the eighteenth century and nineteenth century, and even during the Japanese colonial period. Recently, arguments have been put forward in the field of business, finance, and accounting history that the legacies for modernity of Kaesŏng customs are three. The first legacy is the appearance of a Double-Entry Bookkeeping (DEB) system, called *sagae songdo ch'ibubŏb* (四介松都治簿法), illustrated by the recently discovered Pak Yŏngjin archive. Among the three legacies, the double-entry bookkeeping system, KDEB, is probably the most remarkable as it was created by Kaesŏng merchants at least more than a hundred years before the introduction of the accounting method developed in Europe in the fifteenth century by the Venetian monk Luca Pacioli. We do not really know how old KDEB is, but its importance is only now being recognized outside Korea. The second legacy is the financial system called *sipyŏn chedo* (時邊制度), and the last legacy is the *ch'a'in chedo chedo* (差人制度) or partnership cooperatives used by Kaesŏng merchants. Luckily, these non-governmental business practices and financial traditions were compiled and published as civil laws in the early twentieth century by the Research Bureau of Old Korean Law Codes along with a supplementary

publication by the Japanese Governor General in 1910. There are many other documents that also give us insight into traditional commerce in Kaesŏng.

KDEB project raise an issue ‘the West in the East’ represented a great contribution for a better understanding of the development of double-entry bookkeeping as a traditional accounting method used in pre-modern Korea. The recent discovery of journals, ledgers and financial statements provided us with the opportunity to analyze and capture various aspects of history that are revealed through the contents and subjects observed in those records.

Nowadays the emergence of capitalism in East Asia with large port cities as crucibles for the creation of wealth and as focal points of trade has led economists to shift their focus from nation-states to transnational regions. During recent decades, East Asia has been witnessing the birth of a new economic zone, which is not delineated by national borders or groups of nation-states such as China, Korea, and Japan, or the countries of Southeast Asia. Rather we can observe the existence of a *maritime corridor*, running from Vladivostok in Russia to Sanghai in China, which has its own potentiality for post-modern capitalism. The global phenomenon has a long history and is not unique to nowadays. In fact, from the twelfth to the fourteenth centuries the Italian cities of Genoa and Venice, together with Barcelona, were global marketplaces commanding the flow of goods in the known world, and trading with Asia by controlling the central maritime space, the Mediterranean Sea. For many years scholars from all over the world looked at the European case as unique and considered the Asian case from a *Eurocentric* point of view.

Looking at ‘the West in the East’ this paper focuses on a particular case-study: the comparison of the Kaesŏng financial system with the Italian Venice system, it will enrich analysis with an argument regarding ethics embedded in the system.

The project will argue that Christian business ethics were strongly enshrined in the in Kaesŏng accounting commencement. Actually financial statements depend on the good fortune, which is responsible for the justice and accuracy of the financial statements. Similar to the Italian Venice case, the project will show the ethics and spirit embedded in the KDEB method. Indeed, in transaction documents issued in Kaesŏng, we can often find Buddhist and Confucian responsibilities in the form of invocations to the Buddha or to Heaven. This fact can allow us to talk about a spiritual dimension within the conduct of the trade that was probably aimed at seeking greater accuracy and trustworthiness in the method. The enemy of Kaesŏng accounting commencement is fraudulent financial reporting called ‘*Bŏn-chil*(反作) resulted from the distortion of records, falsified transactions means an intentional preparation of misleading financial statements. In order to demonstrate that KDEB was a rational DEB method, this essay show the articulated account with same double records resulting from the same date of journals and ledgers, Korean merchants developed standards in their respective accounting methods. In conclusion, we take no interest in pointing out who was the first to invent the DEB method. What is really astonishing is that the Italian merchants and the traders of Kaesŏng used a similar method with similar aims in keeping accounting books. The merchants of Kaesŏng developed a concrete instrument to monitor their cash flows decades before the Japanese colonisation which, by forcing open Korea’s “doors,” exposed the Korean Peninsula to Western influences. Through an analysis of the KDEB case the project can show that a pre-modern form of “capitalism” did exist in Korea and it was as rational as the Italian form. This fact reinforces our conviction that a common East Asian integrated market existed, for the simple reason that, in the Kaesŏng merchants’ journals and ledgers, international relations among merchants are transcribed.¹

II.

The Austrian economist Eugen von Böhm Bawerk argued that “the cultural level of a nation is mirrored by its rate of interest, the higher a people’s intelligence and moral strength, the lower the rate of interest.” World interest rate historians Sidney Homer and Richard Sylla deduced from this point that since a people’s intelligence and moral strength can be substituted by their “financial strength,” the greater the “financial strength,” the lower the interest rate.² Accounting record from Kaesŏng, mostly is related to the management of short-term and mid-term financial account for maintaining adequate liquidity which confirmed that interest rates for loans to be paid within a

¹ Kaesŏng Double Entry Bookkeeping in a global perspectives, Vol 1, edited by Jun Seong Ho, The Academy of Korean Studies. 2016.

² On technological level and financial strength: see Sidney Homer and Richard Sylla, *A History of Interest Rates*, Rutgers University Press: New Jersey, 2005, p. 2.

month fluctuated on average around a range of 2.224% for short-term and in payment periods of at least one hundred days stabilized at monthly rates of 1.25-1.5% for mid-term. They have seasonal tendency is apparent in the late eighteenth century accounting records from the North Korean Social Science Research Institute, the mid nineteenth century accounting from the Gobe university and the late nineteenth century accounting ledgers of the Pak family. Their management skill for seasonal cycles during the cultivation of ginseng shows that the intelligence and financial strength of the Kaesŏng merchants were such that, in loans of fewer than thirty days they could circulate capital at low interest rates. In this section, I will focus on the circulation of promissory note under one hundred days and loans over one hundred days to distinguish monthly long term interest rates fluctuations.

Seasonal cycles of ginseng business require a careful management of cash flows during the cultivating 6 years rooted ginseng. Cash receipts from sales are highest in the late autumn because that is when most ginseng field make harvest and sales. In the 1960s, social science scholars from North Korea presented the bill of exchange (*ŏm* 於音) merchant employee (*ch'a-in* 差人), and local credit market and interest rate systems (*sipyŏn chedo* 時邊制度) that were elaborate economic heritages from the Koryŏ period. These business traditions were first recognized in academia during the early colonial period, and Koreans took great pride in them as proof a rational culture in the form of a civil economic system during a period when they lost their nation. Among these Kaesŏng business systems, the existence of a local credit market and interest rate systems was first discovered by the a report from the Kaesŏng branch of the Chosŏn Production Bank (the predecessor of the Korea Development Bank). The system was also serially reported in nine issues of the Kaesŏng region's *Koryŏ Times* (*Koryŏ Sibo* 高麗時報) by Pak Chae Ch'ŏng (朴在淸, essay writing name Pak Ahjee 朴芽枝) in the 1 July (fourth) issue to the 1 September (twelfth) issue in 1933 under the title "A Short Discourse on Local Credit Markets and Interest Rates" (*Sipyŏn soron* 時邊小論). Kim Kyŏng Chin's response and discussion of the system appeared in the 1 September (thirteenth) issue in 1933 till 16 January (twenty-fourth) issue, across ten issues, and also highly publicized the system. In addition, the system was also introduced in 1941 when Mun Chŏng Ch'ang discussed the unique features in the Songdo double-entry bookkeeping and merchant employee systems in Kaesŏng. Mun pointed out the base interest in use by the Kaesŏng merchant organizations was lower than interest rates issued by the contemporary banks in the 1940s; this was a feature unique to the local credit market and interest rates in Kaesŏng. The *Koryŏ Times* introduces the financial technology, similar to the short-term call money system or individual banks' checking accounts, in that it was based on credit to continually provide needed capital on a short-term basis at any time for any transaction. In other words, it was a traditional financial technique of loaning credit to the parties of a transaction at any time with settlement terms within a month, for a month, or monthly at interest rates established by exchange tellers for the circulation of capital in the Kaesŏng region. Therefore, records of credit market transactions with commencement dates and repayment periods for bond and debt transaction records are sources that prove the *sipyŏn* system's efficacy. In this regard, among the currently known day books, Pak Yŏngjin's day books are one of the primary sources that can be used to show this.

Even the investigative report by the Chosŏn Production Bank introduces the *sipyŏn* system as a simple but extremely advanced financial technique wherein the buyer could always borrow in cash a holding amount at a proportional interest rate by signing a promissory note, all without the aid of banking institutions that required the depositing of provisional reserve funds. The highlight of the *sipyŏn* system was that that it could continually circulate capital without pause. To demonstrate this characteristic requires that we apply the principles of consistency and continuity standard in today's accounting to confirm whether or not Kaesŏng merchant accounting records actually disposed of the transactions as such.

For example, let us look one of Pak's day books: Kanggok-taek's account posted in an 1887 day book on the first page. One of the entries records the transactions' interest rate and repayment

period as follows: “邊十 8 兩式康谷宅債給八月本明二月晦捧次交五千兩下.” This translates to “An interest rate of 15% (邊十 8 兩式) will be applied to Mr. Kang’s loan of 5,000 *yang* on the fifteenth day of the eighth month in 1887, to be repaid in the second month of next year.” If journalized according to today’s accounting standards, it would be “(credit) 5,000 *yang* loan (debit) 5,000 *yang* cash.” The highlight of the Kaesŏng merchant day books was that they combined the functions of journals and cash books.

If we observe the agreed rate of interest in the journal (邊十 8 兩式), we see that the Kaesŏng merchants recorded horizontally a phonetic symbol for Arabic and East Asian numerals. This was written in right to left instead of left to right. This is because this symbol was used to represent a cipher, and arranging decimal ciphers vertically would not have been conducive in calculating interest clearly. The Kaesŏng merchants used the characters *yang* (兩), *chŏn* (錢), and *pun* (分) as ciphers for units of currency, but in calculating agreed upon interest in journals they represented decimal ciphers as percentages. *Yang* was rounded off to two decimal places, or one-hundredths, *chŏn* was rounded off to three decimal places, or one-thousandths, and *pun* was rounded off to four decimal places, or one-ten thousandths. Therefore, ‘邊十 8 兩式’ indicated an interest rate of fifteen-hundredths or 0.15. Five thousand *yang* multiplied by 0.15 came out to an interest sum of seven hundred and fifty *yang*, which would be recorded in the account ledger.

In the seventh issue of the *Koryŏ Times*, Pak Chaech’ong notes that all the entries in ledgers like the Pak ledger are subdivided into units of one day, leading him to observe that: “Rather than the *sipyŏn* system being a monthly rate of interest, its nature was that of providing an interest rate at that instant. At the prior-mentioned monthly rate of interest, it would be possible to loan full time over the long term, but impossible to loan on the spot for the short term.” According to this description, the *sipyŏn* system had to have interest calculated on a daily, not monthly basis, as it focused on loaning in short-term intervals.

The *Koryŏ Times* boasted not only of the Kaesŏng merchants’ capacity to evaluate credit according to any day of the month, but of the merchants’ method in fixing settlement dates on the last day of the month and then repaying before the agreed upon settlement date in order to raise the strength of their credit. This fact reported in the *Koryŏ Times* is evidenced by investigating the recorded repayment dates in the day journals and comparing them to the actual settlement dates in the account ledgers. From this, we can observe the degree to which actual liquidation dates in the *sipyŏn* system were given priority over the agreed upon repayment dates.

Although Pak’s accounting records recorded the fixed dates of repayment in day journals and the actual date of settlement in the accounting ledgers for outgoing loans, repayment before the agreed upon dates was regarded as being of the highest credibility. Therefore, we can apply the Kaesŏng credit evaluation index to the gap in between the agreed upon date of repayment in the day journals and the actual executed date of settlement in the Pak accounting ledgers.

If we observe the day journal records from the fifteenth day of the eighth month in 1887 to the twenty-sixth day of the fourth month in 1894, out of two thousand, four hundred and forty-six recorded transactions, one thousand nine-hundred and seventy are distributed in thirty-day installments. Out of these transactions, about fifty-five percent were settled between the time interval starting from the twenty-fifth day of the month and the third or fourth day of the next month. This custom was also reported in the *Koryŏ Times* as “*mu pyonil*” (無邊日), when accounts were liquidated three or four days after every twenty-fifth or twenty-sixth day of the month. In particular, the twenty-eighth day of the month has the highest number of recorded settlements, and more transactions are settled before the last day of the month rather than after. In conclusion, the unsecured credit transactions in the Kaesŏng region had a credit enhancement method unique to the region of settling transactions before the agreed upon date of repayment, which shows the degree of development and vitality of the marketplace.

As previously stated, the 1929 report by the Chosŏn Production Bank, buyers and suppliers of capital within the *sipyŏn* system could instantly come up with capital in a system similar to that of the call money system used between banks for short-term loans. The special feature of the present-

day call money system is its volatility. In contrast to the fixity apparent in interest rates regulated by the government, the volatility in short term interest rates allows for natural fluctuations according to the supply and demand of credit in civilian loan markets. The change in interest rates differs according to whether the rational wealthy person would invest his surplus capital in a credit instrument to smoothly circulate capital or the foolish wealthy person who stores it away in a vault or buys land to seek rent, stopping the flow of capital.

In Pak's accounting records, loans fewer than one hundred days, and especially thirty days display volatility similar to that in the present-day call money system. If we observe monthly interest rates of credit and debt from the fifteenth day of the eighth month in 1887 to the thirtieth day of the twelfth month in 1900, the former displays an extremely high volatility before a hundred days and stabilized rates in the window of 1.5% after a hundred days, a drastic change. In monthly interest rates for debt, the rates for loans under one hundred days are also extremely high as that for credit interest rates; after a hundred days, there is a reduction in volatility, but still retains a degree of variance.

What is the economic significance of the two affiliated fluctuation trends wherein they share a commonality where volatility is high in the short term but falls drastically after the hundred day mark? The high degree of volatility in short term interest rates is explained by the gap in high profit expectations by the suppliers the longer they wait and the urgency of the buyers. In addition, as unsecured credit is determined by the flow of capital, the high fluctuations can also be explained by organizations preferring to take on risk in the short term versus organizations preferring stability. In European financial history, the volatility of interest rates is a feature that defines the modernity of capital markets versus the fixity of normal rates in ancient societies. On these grounds, we can regard the volatility of interest rates in this example as one example of displaying the modernity of contemporary capital markets.

If we observe credit and debt interest rates over a hundred days, we see that the highest interest rate was 4% in loans of less than ten days, and as time increased, the interest rate fell to a monthly 1.5% at the end of ten months. There is an apparent trend of interest rates falling 1% every thirty days, which was also reported by the *Koryŏ Times* as “*rakpyŏn*” (落邊). “*Rakpyŏn*” referred to the 0.25% decrease in interest rates every four or five days in *sipyŏn*, and the 1% decrease in interest rates by the fourth interval within thirty days. This “*rakpyŏn*” can be thought of as another special feature of the *sipyŏn* system along with its high volatility. According to Postan's promptitude of creditor and procrastination of debtor concepts, the “*rakpyŏn*” performed a similar function in filling the gap of trust between the promptitude of the creditor and the procrastination of the debtor. We can observe a decrease in the variance of interest rates as the length of time increases for loans under one hundred days.

Then what of the stabilization trend after one hundred days? In particular, what is the correlation of the 0.015 monthly rate to the *sipyŏn* system? According to the Chosŏn Production Bank, the credit reputation of the Kaesŏng merchants was such that there were no defaults in their several hundred years of credit history and the “0.015 (yearly 15%) rate” was based on trust from the creditors that this credit reputation would not be sullied:

Originally, *sipyŏn* is invested in by capitalists who do not want to self-manage their businesses with the goal of interest earnings as it has good interest rates and no instances of loan losses.

Besides this, those who cannot use *sipyŏn* (the system requires large amounts of assets or capital to participate) entrust money to someone who can participate in order to earn interest. These persons can be divided into two kinds: ① They entrust this money to someone they know to set up an account of usually at least one thousand *wŏn*, which earns annual interest at a sum of over one thousand *wŏn*, but otherwise they do not have many other accounts. ② There are those in this category who are extremely businesslike and take their capital with those of someone else's, releasing it into the *sipyŏn* system to earn interest, while their trustee takes only a rate of five *pun* per year (1年割5分). As this is a type of usually smaller accounts of one hundred or two

hundred *wŏn*, there are extremely many of these, and they are usually held by wives. ③ There are about thirty or so *kye* who gather considerable sums and transplant it into the *sipyŏn* system. If we calculate the three categories of sums, the entire amount circulating in the *sipyŏn* system would not be less than fifteen million *wŏn*.³

The observed credit interest rate of 0.015 (monthly 1.5%, yearly 15%) in Pak's accounting records correlates to the entrusted 15% annual interest rate of small investors, mostly Kaesŏng women, who held these small-sum accounts. There are one hundred and four such accounts to be found in the ledgers, with 45% of them credit loans of less than five hundred *yang*. In sum, the particular interest rate of 0.015 for loans of at least one hundred days can be attributed to the existence of accounts held by Kaesŏng merchants, as seen in Pak's accounting records.

According to the *Koryŏ Times*, the Kaesŏng merchants settled their accounts twice a year. The first half spanned the third to seventh lunar months; the second half spanned the eighth to second month of the next lunar year. At the end of the seventh month and the end of the second month they would settle the notes receivable (*patch'a*, *not pongch'a* 捧次) and the notes payable (*kŭpch'a* 給次) accounts and begin new transactions as was the custom, changing the interest rates according to season. The settlement days were the last day of the seventh and second months and the interest rates would change month by month in the capital markets.

We can observe that short-term credit transactions less than a month in Pak's ledgers concentrate around the second and seventh months. Long-term loans over a month number one hundred and twenty-three in the ninth month and loans concentrated more in the second half of the year rather than the specially arranged months (second and seventh). The beginning date of the loan and its settlement were brokered and dates of settlement were either determined in the upper or lower half of the year. All accounts were determined in the settlement term without cash and by exchanging promissory notes, wherein credit transactions would be resumed. For instance, financial transactions would be divided into long and short-term with long term loans starting on the twenty-sixth day of the seventh lunar month to be repaid on the thirtieth day of the second month next year, and short-term loans would begin on the twentieth day of the eighth month be repaid in ten days on the thirtieth or start on the twenty-second of the second month and end on the thirtieth of the second month.

The Chosŏn Production Bank's report also noted that there was a tendency for interest rates to fall in the upper half of the year and rise in the lower half of the year. During the seventh month to the second month in the lower half of the year, the interest rate was highest at 1.25-1.5% in the ninth and tenth months. On the other hand, the interest rate would drop from 1.25-1% and would be the lowest during the first month, fifth, sixth, and seventh months. This section will observe the differential interest rates reported in both the *Koryŏ Times* and Chosŏn Production Bank as they appear in Pak's accounting records.

Average interest rates in the lower half of the year on the whole are higher than that of those in the upper half of the year. The higher interest rates in the lower half of the year as reported in the *Koryŏ Times* from 1930 to 1932 also appear in 1887-1900 Pak records. It is also evident that there are considerably more loans in the lower half of the year, and that interest rates in the lower half exceed those of interest rates in the upper half. In particular, months nine, ten, and eleven have interest rates of above three percent, with the tenth month having the highest at 3.59%. On the other hand, interest rates in the upper half are lower, with the lowest in the fifth month at 2% and varying within a range of 1.5% and 0.5%. According to the Chosŏn Production Bank's report, a monthly difference of 0.5% in rates occurs within both halves of the year and Pak's accounting records also record a monthly difference of 0.5%.

Pak's records also show the number of short-term credit buyers concentrating in the lower half of the year as per the Chosŏn Production Bank's report. In loans under a month long, the number of loans during the second and seventh months is greatest at nine, with the upper half having twelve loans total and the lower half having twenty six loans, a difference by the multiple of two. There

³ 長尾崎俊 Author, Kim Hyo-tong translator, 1973.

are no short-term credit transactions in the fourth to sixth months, and no loans given in the first, fourth, sixth, and eighth months.

However, for loans over a month, both the eighth and third month have twenty-three loans each, the highest number during the year. For credit, we can see five in the eighth month and one hundred and twenty-eight in the ninth month. On this, the Chosŏn Production Bank reports this as “*taeyŏsu*” (大與受). In today’s terms, we would consider this term as equivalent with the all-important “maturity day” in credit markets. All six hundred and forty two transactions in Pak’s records are conducted within the settlement periods ending on the last day of the month. There is not a single transaction with a settlement day set in the middle of the month. The reason for loans under a month being so prevalent is because the ups and downs in the market were so influential that peak months had the most short-term loans. This was because it was easiest to change one’s business fortunes during these peak months and one could still implement credit instruments to stimulate the flow of capital to overcome market disturbances or omens.

The settling of all accounts in the end of the second and seventh months in Pak’s ledgers is to observe whether there are any insolvents on the “*taeyŏsu*” (大與受). Since all bonds issued depended completely on fulfilling them by this day, this regulation was probably established according to the principles of accounting. Since Kaesŏng merchants’ credit depended on whether or not they could make payments, which were the lifeblood as even a slight delay in their payments would cause a meteoric drop in their credit and remove them of their right to credit transactions, we can view this concept of clearing accounts every second and seventh month as a rule installed to maintain their credit passed down over hundreds of years.

According to the Chosŏn Production Bank report, all Kaesŏng merchants avoided bond and debt transactions during the twelfth month as that was when they settled accounts. During this time, land taxes were paid to the government as well as *ch’a’in* dispatched to the provinces to make account statements. Thus, financial activities were ceased during this month as all the merchants would be focused on settling their accounts. Pak’s accounting records also show no loans or credit statements during the first and twelfth month as they would be used in order to calculate tax payments. This is in distinct contrast to the one hundred and twenty-eight credit transactions during the ninth month, which were the accounts of the above-mentioned Kaesŏng women who would pay their 1.5% interest rates at this time. Ignoring the first month, the payments during the second to fourth months, especially the second month, show the interest rates falling for bank loans for ginseng farming and prepayment from the government relative to the tenth month’s peak interest rates.

Pak’s records show that monthly established interest rates did in fact fall during the upper half and rise during the lower half as reported by the Chosŏn Production Bank. The upper half of the year had less financial activity as most transactions dealt with expenditures from direct production, decreasing the scale of capital flow and demand, depressing interest rates according to market principles. As grains would be harvested in the lower half of the seventh month, buying and selling the grains raised demand for capital and interest rates.

Every first month of the year, provincial merchants would return home with surplus capital to rest, depressing interest rates, while the three month period from months five and seven slowed down business activity from the heat created the lowest interest rates. Despite the settling of accounts in the seventh month, low interest rates in this period can also be attributed to the harvest moon festival and other holidays. Pak’s interest rates reflect the seasonal changes in business activity according to the rest in commercial activities during holidays or peak business periods. In addition, as reported by the Chosŏn Production Bank, the system of writing a promissory note to supply oneself with capital according to one’s credit limit was a system virtually the same as that of today’s banks. Finally, the personal accounts recorded in the journal and accounting ledgers are a spider’s web of complicated relations but all correctly balance out according to debtor and creditor, with no instance of irrecoverable debt or bankruptcy. Thus, we can see, as reported by the Chosŏn Production Bank, the modern and advanced nature of this financial system which

maintained the principles of consistency and continuity in the transactions of Kaesŏng merchants over hundreds of years.

The significance of the Kaesŏng *sipyŏn* system in economic and accounting history

From the basis of Pak Yŏngjin's account ledgers, we can observe that the Kaesŏng *sipyŏn* system readily lent capital anywhere, anytime it was needed. Cases where interest rates changed under a month through credit transactions in particular resemble the short-term call system implemented in use among banks and by banks; the *sipyŏn* system was able to quickly balance credit/debit entries in liability and asset ledgers. If we look at the relationship between financial transaction records in Pak Yŏngjin's account ledgers and the *sipyŏn* system, it shows a symbiotic relationship between accounting practices and capital lending. In sum, the Kaesŏng merchants' prowess at accounting practices and credit production cannot be overemphasized.

We have shown that most transactions in Pak's day ledgers dated from every 25th day of the month till the third or fourth day of the next month and are concentrated over a span of ten days. About fifty-five percent of all transactions are recorded in a span of ten days; in particular, the number of contractual repayments reimbursed before thirty days is greater than of repayments reimbursed after thirty days. The lending of capital and the change in interest rates in under a hundred days, or thirty days, in Pak's ledgers shows volatility that resembles the variability in present day short-term call interest rates. Through this, we can confirm the financial capabilities of the Kaesŏng merchants to lend short term credit within thirty days created lower interest rates than those of other regions. We also saw the drastic change in borrowing rates by period; in borrowing periods of less than a hundred days there was extremely high volatility, and in borrowing periods greater than a hundred days the interest rate settled. The latter's interest rates were set at a very low 1.5% which we showed was conducive for micro-finance investing by females in Kaesŏng. In comparing lending and borrowing rates of periods under and at least one month, it is seen that average interest rates by month were overall higher in the second half of the year (eighth to second lunar month) than in the first half (third to seventh lunar month).

In sum, the flexibility of the Kaesŏng *sipyŏn* system to circulate capital between suppliers and demanders is akin to the volatility present in today's short-term call lending system between banks. The volatility in the Kaesŏng *sipyŏn* system arose from periodic settling of credit balances biannually to match the market's supply and demand of capital. In particular, the case of the interest rate naturally changing in repose to the demand of capital in ginseng farming is comparable to the fixity in modern and present-day government regulatory powers. The *sipyŏn* system was a modern civilian credit system created by rational actors with spare capital who invested in traditional Kaesŏng credit instruments for the smooth circulation of capital instead of storing it away as currency in a vault or putting it into land as rent seekers, foolish behavior more common among the wealthy from the pre-modern era.

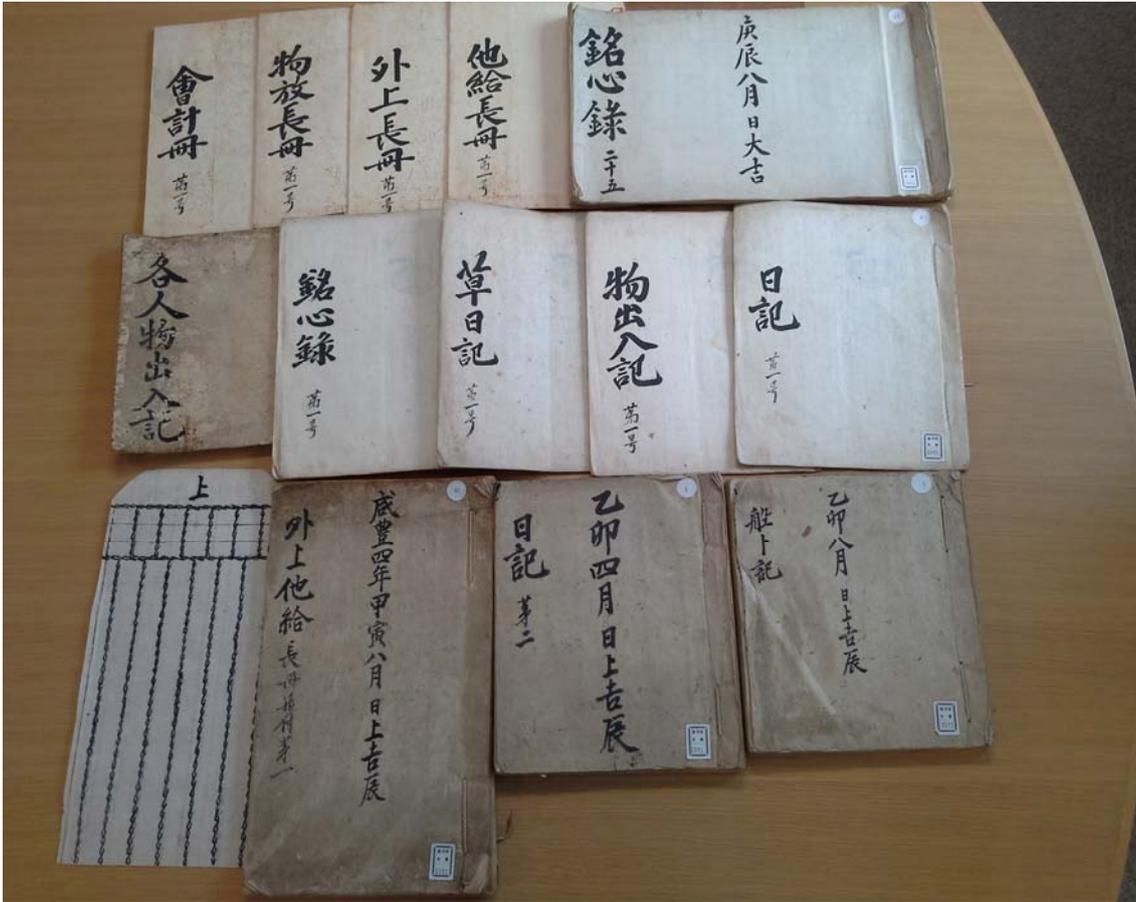


Figure 1: the Kobe University Collection for KDEB, presents the set of accounting book issued by a merchant of Kaesŏng and which, nowadays, belongs to Kobe university in Japan

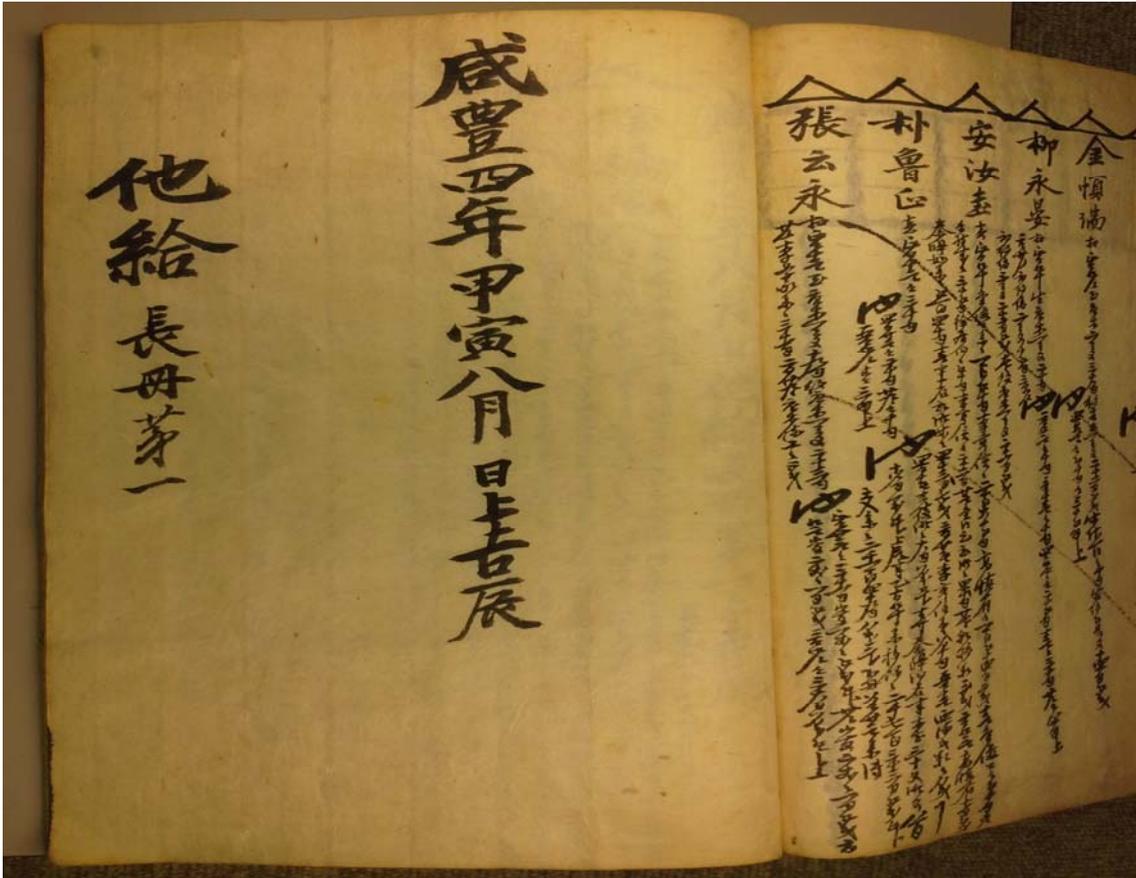


Figure 2 : Liabilities Ledger in the Kobe University Collection we can observe on the lower right side of the first page of this ledger dated 1854, the inscription 上吉辰, which literally means “by Heaven’s blessing, may this day bring good fortune for profit.”

Reference

Sinjūng tongguk yōji sūngnam (新增東國輿地勝覽開城府上.下) (Newly Augmented Survey of the Geography of Korea: Kaesŏng sections) and selected ūpchi (邑志)
 朝鮮總督府 朝鮮人の商業(Korean Commerce)
 Advisory Body to the King 1910 Ginseng Fields Report (中樞院 調査報告書) (on Kaesŏng [開城], P’ungtŏk [豊徳], Changdan [長湍])
 (copyright holders :National Institution of Korean History)
Koryŏ Times (Koryŏ Sibo 高麗時報) by Pak Chae Ch’ŏng (朴在淸) from the 1 July (fourth) issue to the 1 September (twelfth) issue in 1933 under the title “A Short Discourse on Local Credit Markets and Interest Rates” (*Sip’yŏn soron* 時邊小論)
 (copyright holders :The Academy of Korean Studies Library)
 開城簿記 The Survey by the Japanese Government-General of Korea (朝鮮總督府) In 1925. Shilyong chajo: Sagae Songdo Ch’ibubŏp (實用自條, 四介松都治簿法)
 Edited by Kūmgang ōbu (錦江漁父) Hyŏn Pyŏngju (玄丙周) Reviewed by Kim Kyŏngshik (金璟植) and Pae Chun’yŏ (裴俊汝) of Kaesŏng