MEASURING MODELS AND TRENDS IN INTERNATIONAL FACTORING: 2009-2018

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Abstract
Financial markets have traditionally been the major source of long-term funds for the economy in line with the development objective of the state. Factoring as a tool of ‘Asset liability management’, provides institutions with protection that makes an acceptable amount of risk, and the models relating to international factoring enable to measure and monitor risk. The year 2018 has faced various risks due to unexpected situations like Brexit, Euro Currency, financial turmoil etc. The author concluded that the tides in economic conditions are affecting the dollar price, flow of currency and also the volume of international factoring.

Keywords: international factoring, foreign currency, import factoring, export factoring, receivables management

JEL Codes: G12, G32, D53

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Introduction
Nowadays, international factoring services are facing the risk of volatile market conditions. Hence, the volume and market shares are varying among the countries across globe. The year 2018 is declared as most volatile according to Morgan Stanley. It defines a "large move" as an unexpected single-day change in price compared with "what was implied by options markets at the time" in global stocks, bonds and currencies, the note said. The firm charted multiple markets around the world, ranging from currencies such as the Australian dollar and the euro to commodities such as Brent crude oil and copper.

The following definitions are given to understand the term ‘factoring’.
Stecki (1995) defined the term ‘Factor’, as “an exchange for the commission, takes over all duties of the enterprise resulting from the sale on the principle of trade credit. As the awareness level about the benefits of factoring increases, factoring will spread its wings across the length and breadth of the country”.

D’Arcy et al. (2000) defined ‘Factoring’ as “the selling of the business's accounts receivable to a factoring company. The factoring company (factor) pays the business a percentage of the value of the accounts receivable and deducts a fee for the cost of collections”.

Perman (1984) defined that the “Factoring is a relatively new financial product that is applied on the domestic or domestic and international markets, according to some authors, it represents "a passport to financial freedom"

Mircea (2000) stated that “there is a framework factoring contract comprising the promise of the factor to buy and the adherent to sell all claims or those that meet certain criteria, which they determine, and with each transfer of receivables is entered into a factoring contract itself”.

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Liquidity can be defined as a financial solvency of the company it can be expressed as the liquidity of asset as well as corporate liquidity or solvency (Kallberg and Parkinson, 1993).

The objectives of this study:
1) To identify the process and various models of measuring international factoring.
2) To analyze the trends in international factoring according to the volume, value and market share during the period 2009-2018.

This paper is intended to examine the empirical studies on international factoring and to identify its trends during the period 2009-2018. This paper also presents models of measuring international and factoring.

Review of Literature

Van Horne (1977) described working capital management as the administration of current assets in the name of cash, marketable securities, receivables and inventories.

Subramanyam (1991) attempted to summarize the findings of the Kalyansundaram committee, which recommended the introduction of the factoring services in India to complement the services provided by banks. There is good scope for international factoring in India. Hence, the government may enact a suitable legislation for the levy of the penal interest for delays beyond a specific period.

Sengupta (1995) revealed that “the introduction of international factoring services would open up an alternate window for the exporters. He further pointed that there is need to scrutinise the some classified issues before launching of schemes, viz., legal, policy, strategies dimensions, organisational and structural”.

Mittal (1997) found that “factoring services are yet to be fully ingrained in the Indian financial systems. The study further reveals that there is need to extend the service on non-recourse basis”.

Osisioma (1997) stated that “the working capital management is the regulation adjustment of the balance of current assets and current liabilities of a firm such that maturing obligations are met, and the fixed assets are properly serviced”.

Sopranzetti (1999) stated that “the ‘factoring’ can be used as a tool for the mitigation of underinvestment problem. He shows that the underinvestment problem is to be more serious for firms that have constraints on the use of debt in financing new projects (when the firm has maximally explored its debt capacity or in the case of financial distress)”.

Wilner (2000) study allowed that “firms which focus on cash management were larger, with fewer cash sales, more seasonality and possibly more cash flow problems. While smaller firms focused more on stock management and less profitable firms were focused on credit management routines”.

Soufani (2002a) revealed with empirical evidence that “the segmentation of firms using factoring are more concentrate on small firms with turnover between £250,000 and £3 million, one to five-year-old, limited liability companies in manufacturing, distribution, and transportation”.

Deloof (2003) found that “the way working capital is managed has a significant impact on profitability of firms. The result indicates that there is a certain level of working capital requirements which potentially maximizes returns”.

JOURNAL OF APPLIED MANAGEMENT AND INVESTMENTS
Bannerjee (2003) studied the trends and performance of global factoring business. He finds that “the compound growth rate of world total factoring volume is 13.54 per cent during the span of 19 years. However, domestic factoring dominates the market share in the total factoring business. The share of domestic factoring is between 93 per cent and 95 per cent of total factoring business. The upward growth rate of factoring business in some major countries viz Finland, France, Germany, Italy, Japan, Italy, Japan, Netherlands and Spain has been particularly noticeable. However, concentration ratio, Hirschman-Herfindal index and Entropy index imply that factoring business is still highly concentrated in a few countries although it is expanding slowly in other countries”.

Klapper (2006) identified the relationship between working capital and factoring. Although conventional factoring can be a significant source of working capital, these risk considerations may in practice lead to large discounts and limit the value of factoring as a source of working capital finance. Reverse factoring provides an alternative solution for SMEs, especially when credit is limited. It reduces costs that result when information about the quality of the receivables is lacking, as well as costs for collection and monitoring services.

Aeppel (2010) studied the concept of reverse factoring, which reveals that “the large firms such as Caterpillar, Phillips, and Rolls Royce explicitly indicate that their implementation of reverse factoring is at least in part intended to improve cash flow for their suppliers, as well as sustain jobs and secure supply”.

Ivanovic et al. (2011) revealed that “the Croatian financial system is dominated by the credits as financing instruments. According to the Croatian National Bank, total value of credits in Croatia amounted to 275 billion in late 2010th, of which is 11.2% problematic part of credit portfolio (30 billion). A year earlier (2009) it was difficult to charge a little less than 8% of approved credit. Percentage of bad credits increased from 12.9 to 18 percent in 2010, which means that one of five was payable. Such over reliance on credits could lead to greater instability in financial system, and Croatian companies should start turning to other alternative forms of financing, such as factoring”.

Erić et al. (2012) pointed out that “factoring is primarily intended for small and medium enterprises that traditionally have harder access to bank loans, because of low credit capacity or inadequate collateral and is one of the best ways of securing a fast and safe payment of accounts receivable, based on the sale of goods or services. This way of financing is important for exporters as well, because financing through advance payment enables taking the risk of collection and monitoring of receivables, which increases competitiveness and export potentials of these companies on the foreign markets.”

Alayemi et al. (2015) examined factoring as alternative source of finance and the reasons why it is not patronized in Nigeria. The objective of his paper was to explore factoring as a source of finance an alternative source of finance instead of bank loan with its attendant high interest rate. He discovered that there is no factor company operating in Nigeria. In Africa, there are only five countries; namely Egypt, Mauritius, Morocco, South Africa and Tunisia according to Factors Chain International (FCI). The reason for this ignorant neglect is due to the level of development of capital market, weak political and legal system symbolizing.

Belyaeva and Svetovtseva (2016) analysis results have demonstrated that the
market of factoring services was developing very dynamically up to 2014, but its development is restricted by certain economic conditions. The research results have shown that factoring services cover only a small fraction of accounts receivable (for example, in Russia only 1.9% of undue receivables were covered by factoring in 2015). The authors propose some ways to increase factoring efficiency including the consideration of specific business features of clients and factoring institutional structure development.

Kozarević and Hodžić (2016) study reveals that the results of their research contribute to the analysis and understanding of factoring businesses and show in which way financing by factoring influences liquidity, competitiveness, and export capacity of companies. However, this research is only a preliminary step towards research into factoring as a modern way of financing as compared to short-term credits as traditional ways of financing.

Seetharaman (2018) states that the dollar index surged during Aug, 2018 stood at 96.101. The euro was at 1.1438$ and pound at 1.2749$ by end of last week. The dollar’s strength weakened the precious metals with gold at $1184.25/ounce and silver at $14.8038/ounce by the end of last week. Significant volatility was seen in global capital markets on account of the fear of Turkish contagion falling to emerging economies and recent trade dispute concerns between US and China.

Jose et al. (2017) paper aims to analyze the background of internationalization strategies that Mexican MSMEs in manufacturing have implemented. Also, it aims to deduce how many have been internationalized through the implementation of these strategies and expose the most relevant based on network theory; and show the opportunities and risks that MSMEs face when using internationalization strategies and factors influencing the market today, based on micro-businesses in Mexico.

Models of Measuring International Factoring

(1) Olteanu and Radoi (2013) stated that “trying to create a mathematical model applicable to the factoring activity. First of all, factoring implies operations of arbitrage which are meant to create liquidities. One can speak of a direct link between lack of liquidity and the necessity to resort to factoring. Thus, the total commission paid by the economic agent who benefits from the factoring operation is recorded as a cost incurred for obtaining immediate liquidities”. They found the following formulae:

\[
\text{The total value of invoices} = \text{commission} + \text{liquidity}. \quad (1)
\]

(2) van Laere (2009) stated that “in an international reverse factoring transaction, payments are made in the same currency, usually the buyer’s currency, the exchange rate risk is thus at the supplier. The bank pays the supplier in the domestic currency and the buyer at maturity pays the bank also in the same currency. However, since the supplier receives the domestic currency and operates in the foreign currency, there is some exchange rate risk. Since the buyer and the supplier do not operate in the same currency, calculating the benefit from reverse factoring is not just comparing nominal interest rates of the buyer and the supplier. To value the benefit from reverse factoring for the supplier, the interest rates have to be expressed in the same currency”.

The covered interest rate parity states that it is indifferent whether money is domestically interest bearing and then converted with a forward contract into a foreign
currency or that money is converted with the spot exchange rate to a foreign currency and bears interest in that currency.

3) The algorithm at Figure 1 was given by Soufani (2002b) to understand the process of international factoring. This algorithm involves the next steps:

1) Customer places order to the supplier;
2) Firm supplies goods and issues invoices;
3) Supplier firm requests financing and provides the debtor book (sales ledger);
4) Factoring company advances cash against invoices once approved based on the information
5) The customer firm is expected to make full payment to the factoring company within a stipulated period of time;
6) The factoring company charges fees and interest to the supplier; and
7) If the customer firm defaults on payment, the client firm must repay the factoring firm.

![Figure 1. Factoring Process](image)

Source: Soufani, (2002b, p. 23)

(4) Altman Z is a tool that has been used widely to assist managements in predicting corporate financial problems (see in Kumar and Anand, 2013). It also helps various stakeholders to take effective preventive measures. The study by Swalih and Vinod (2017) has assessed the Altman Z Score of BSE-Greenex companies for four years. The results present some interesting facts about the Greenex companies. It was found that 12 out of the 25 companies belong to the distress zone. Only three companies belonged to the safe zone. The results of the present study can be used as a ready reference to assess the utility of investing in Greenex companies. The Altman-Z score has been calculated using the following formula for manufacturing concerns:

\[
Z\text{-Score} = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E,
\]

where A – working capital/total assets; B – retained earnings/total assets; C – earnings before interest and tax/total assets; D – market value of equity/total liabilities; E – sales/total assets.
Trends in International Factoring during 2009-2018

Bakker et al. (2004) analyzed the volume of factoring by country and region from 1998-2003. The top three countries in 2003 were the United Kingdom (EUR 160 billion), Italy (EUR 132 billion), and the United States (EUR 86 billion). The following paragraphs are allotted to identify the trends in international factoring during 2009-18.

Table 1 depicts the data relating to global factoring volumes by region during 2015 and 2016. We can see that the Europe has shown an upward trend by the year 2016. If we see the trend of Asia-pacific, it is declined by 6.89 per cent in the year 2016 compared to that of 2015. Africa showed a growing trend with 8.93 per cent during the same period. The factoring volume of the North-America is very similar to the Middle-East, but the South-America factoring volume has a positive growth rate with 20.24 per cent. The overall results illustrate that exporters and importers, around the world, are becoming more and more familiar with the advantages to be derived from a factoring arrangement: working capital, credit risk protection and collection service for the exporter.

<table>
<thead>
<tr>
<th>Continent</th>
<th>Global Factoring Volumes, million EUR</th>
<th>Variance</th>
<th>2016 share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>18721</td>
<td>20393</td>
<td>8.93%</td>
</tr>
<tr>
<td>Asia-pacific</td>
<td>596633</td>
<td>555550</td>
<td>-6.89%</td>
</tr>
<tr>
<td>Europe</td>
<td>15557062</td>
<td>1592974</td>
<td>2.31%</td>
</tr>
<tr>
<td>Middle East</td>
<td>8028</td>
<td>7583</td>
<td>-5.54%</td>
</tr>
<tr>
<td>North America</td>
<td>100530</td>
<td>95072</td>
<td>-5.43%</td>
</tr>
<tr>
<td>South America</td>
<td>86,826</td>
<td>104396</td>
<td>20.24%</td>
</tr>
<tr>
<td>Grand total</td>
<td>2367790</td>
<td>2375967</td>
<td>0.35%</td>
</tr>
</tbody>
</table>

Source: FCI (2017)

Import Factoring

The data relating to the accumulative FCI factoring turnover during 2010-2016 is represented in the Table-2. It reveals interesting facts relating to fluctuations in turnover across variables viz., Export financing, import financing and export-invoice discounting.

In import factoring the agreement is made directly between the financial institution and the overseas client, who in turns assigns debts to the institution. Where bad debt protection is provided for, an institution is expected to investigate the buyers’ credit standing and establish credit lines. Bad debt protection usually covers from 75% to 100% of invoice value, subject to the debt being approved by the financial institution. Import financing turnover is increased by three times during the period 2010-2015, but it is declined by 4.76 per cent in the year 2016.

Export Factoring

An export factor occurs where the factor is in the country where the customer is undertaking business. A financial institution and the exporter will enter into a factoring agreement, with the exporter assigning export invoices to the institution. In order to enter into such agreements, a financial institution is expected to have arrangements in
place with its overseas correspondents to whom it assigns these debts. Such agreements would normally provide bad debt protection in case of debtor insolvency. The competent authority deems that this activity should only be offered by financial institutions with substantial resources e.g. strong capital base, sound communication systems, network of overseas correspondents and trained personnel, to ensure an effective service. Export financing turnover is doubled during the period 2010 to 2015 and a positive growth rate is observed, but is declined by 1.78 per cent in 2016.

The Cost of Factoring and Invoice Discounting

Table 2 provides data relating to accumulative factoring turnover during 2010-2016. The costs of factoring are usually reasonable. It's a competitive business with many suppliers so it pays to shop around. When signing any agreement check the notice period to end the service - most factoring companies require three months' notice. However, some companies have notice periods of up to a year which could prove expensive for your business. If you are not happy with the notice period don't be afraid to negotiate. Standard costs arise in two ways - discount charges and service fees. There may be additional costs for additional requested services.

Table 2. Accumulative FCI Factoring Turnover during 2010-2016

<table>
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</thead>
<tbody>
<tr>
<td>Export financing</td>
<td>126032</td>
<td>162972</td>
<td>192573</td>
<td>219285</td>
<td>242472</td>
<td>261551</td>
<td>256551</td>
<td>-1.78%</td>
</tr>
<tr>
<td>Import financing</td>
<td>23584</td>
<td>30943</td>
<td>36707</td>
<td>50481</td>
<td>54081</td>
<td>66612</td>
<td>63446</td>
<td>-4.76%</td>
</tr>
<tr>
<td>Export invoice discounting</td>
<td>29818</td>
<td>51069</td>
<td>85163</td>
<td>87447</td>
<td>89025</td>
<td>96871</td>
<td>108038</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>179434</td>
<td>244983</td>
<td>214442</td>
<td>357213</td>
<td>385579</td>
<td>424697</td>
<td>428035</td>
<td>0.79%</td>
</tr>
</tbody>
</table>

Source: FCI (2017)

Countries with Market Share of 5 Percent and Above

Table 3 depicts the data relating to the countries having market share above 5 per cent in the entire international factoring market by the year 2017. It is found that the United Kingdom stands first with 20 per cent of market share whereas Netherlands takes last position with 5.60 percent of international factoring volume across globe.

GDP Penetration Above 10%

The following Table 4 reveals the data relating to international factoring with the countries having GDP penetration more than 10 per cent. It is observed that Belgium stands first with 16 per cent of GDP penetration whereas Poland’s place is in the last with 10 per cent among factoring volume data by 2017. However we can find the comparative market share is different for these countries.

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Table 3. Factoring Volume Data 2010-2017: Countries with Market Share of 5%+

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</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>226,401</td>
<td>268,100</td>
<td>291,200</td>
<td>308,096</td>
<td>350,622</td>
<td>376,601</td>
<td>326,878</td>
<td>324,260</td>
<td>14.00</td>
<td>20.20</td>
</tr>
<tr>
<td>France</td>
<td>153,252</td>
<td>174,580</td>
<td>186,494</td>
<td>200,459</td>
<td>226,598</td>
<td>248,194</td>
<td>268,160</td>
<td>290,803</td>
<td>13.00</td>
<td>18.10</td>
</tr>
<tr>
<td>Germany</td>
<td>132,280</td>
<td>157,260</td>
<td>157,424</td>
<td>171,290</td>
<td>189,880</td>
<td>209,001</td>
<td>216,876</td>
<td>232,431</td>
<td>7.00</td>
<td>14.50</td>
</tr>
<tr>
<td>Italy</td>
<td>143,745</td>
<td>175,182</td>
<td>181,878</td>
<td>183,004</td>
<td>190,488</td>
<td>208,642</td>
<td>228,421</td>
<td>13.00</td>
<td>14.20</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>112,909</td>
<td>122,125</td>
<td>124,036</td>
<td>116,546</td>
<td>112,976</td>
<td>115,220</td>
<td>130,656</td>
<td>146,292</td>
<td>13.00</td>
<td>9.10</td>
</tr>
<tr>
<td>Netherlands</td>
<td>35,500</td>
<td>46,000</td>
<td>51,187</td>
<td>52,902</td>
<td>57,378</td>
<td>65,698</td>
<td>82,848</td>
<td>89,713</td>
<td>12.00</td>
<td>5.60</td>
</tr>
</tbody>
</table>

Source: FCI (2017)

Table 4. Factoring Volume Data 2010-2017: GDP Penetration Above 10%

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</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>32,200</td>
<td>36,871</td>
<td>42,352</td>
<td>47,684</td>
<td>55,374</td>
<td>61,169</td>
<td>62,846</td>
<td>69,641</td>
<td>4.30</td>
<td>16.00</td>
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<td>Cyprus</td>
<td>3,450</td>
<td>3,758</td>
<td>3,250</td>
<td>2,823</td>
<td>2,671</td>
<td>2,414</td>
<td>2,925</td>
<td>2,830</td>
<td>0.20</td>
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<tr>
<td>Portugal</td>
<td>24,488</td>
<td>27,879</td>
<td>22,940</td>
<td>22,302</td>
<td>21,404</td>
<td>22,921</td>
<td>24,517</td>
<td>27,008</td>
<td>1.70</td>
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<td>89,713</td>
<td>12.00</td>
<td>5.60</td>
</tr>
<tr>
<td>Estonia</td>
<td>1,220</td>
<td>1,164</td>
<td>1,877</td>
<td>1,899</td>
<td>2,010</td>
<td>2,010</td>
<td>2,495</td>
<td>2,495</td>
<td>0.20</td>
<td>11.00</td>
</tr>
<tr>
<td>Finland</td>
<td>12,400</td>
<td>13,000</td>
<td>17,000</td>
<td>17,699</td>
<td>20,554</td>
<td>23,095</td>
<td>22,000</td>
<td>24,000</td>
<td>1.50</td>
<td>11.00</td>
</tr>
<tr>
<td>Poland</td>
<td>16,210</td>
<td>17,900</td>
<td>24,510</td>
<td>31,588</td>
<td>33,497</td>
<td>35,020</td>
<td>39,756</td>
<td>44,300</td>
<td>2.80</td>
<td>10.00</td>
</tr>
</tbody>
</table>

Source: FCI (2017)

Conclusions

Factoring is used as a tool of liquidity in international financing. However this is influenced by various volatile market conditions viz., forex rate, Brexit, Euro currency, financial turmoil etc. Earlier studies reveals that the top three countries for international factoring volume in 2003 were the United Kingdom (EUR 160 billion), Italy (EUR 132 billion), and the United States (EUR 86 billion).

This study reveals that the Europe has shown an upward trend by the year 2016. If we see the trend of Asia-pacific, is declined by 6.89 per cent in the year 2016.
Africa showed a growing trend with 8.93 per cent in 2016. The factoring volume of North-America is very similar to Middle-East, but factoring volume is seen a positive growth rate with 20.24 per cent in South-America.

The costs of factoring are usually reasonable. It’s a competitive business with many suppliers so it pays to shop around. United Kingdom stands first with 20 per cent of market share whereas Netherlands takes last position with 5.60 percent of international factoring volume across globe.

Belgium stands first with 16 per cent of GDP penetration whereas Poland’s place is in the last with 10 per cent among factoring volume data by 2018.

It is found that the United Kingdom stands first with 20 per cent of market share whereas Netherlands takes last position with 5.60 percent of international factoring volume across globe.

In conclusion, it can be stated that the tides in economic conditions have influenced the value and volume of international factoring.

International factoring is mostly affected by the conditions prevailing in financial markets. The value and volume of international factoring are varying across countries in globe. Liquidity preferences are also subject to the corporate policy and as well as government policy. It is observed that there are very limited studies available in this area. Hence, there is a lot of scope to identify the influencing factors, to make a financial risk models, and also to forecast the trends in international factoring.

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Mittal, M.K. (1997), Study of Factoring services, Vichaar, Vol. 17 No.5, p. 44.