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Trade Payment Risk Is Not Necessarily Default Risk

PaySense Model

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In a typical business-to-business (B2B) trade, the exchange of goods or services does not always coincide with the payment. If suppliers demand settlement in advance, they are exposed to minimal or de facto zero payment risk, however, they also forfeit the opportunity to reach out to a much larger customer pool that may not be able to make these payments. To strike a balance between the counterparty risk borne by the suppliers and by the customers, a common B2B trade payment is structured in two parts: (1) a down payment (i.e., an initial payment made in advance of, or at, the exchange of goods or services), and (2) a trade credit. Trade credits facilitate the purchase of goods or services without immediate payment in full and are commonly demanded by customers as a source of short-term financing. In a supply chain, a company can be a debtor to its upstream suppliers and a creditor to its downstream customers. One of the most vital risks from a company's perspective is whether it will receive timely payment from its customers (i.e., trade payment risk) and, thus, have enough liquidity to pay its own suppliers.

Trade Payment Risk versus Default Risk

Both trade payment risk and default risk are types of credit risk that focus on the same question: Will a debtor make a repayment on time and in full? However, trade payment risk originates from trade credit, which is fundamentally different from the underlying exposure of default risk (e.g., on a loan or bond). The distinctive objective, size, duration, and collection cost of a trade credit leads to a special set of assessment criteria that are different from the typical criteria for a loan or bond. Consequentially, the traditional default risk measures, such as credit ratings and probabilities of default (PD), are not applicable for trade payment risk.

Table 1: Characteristics of default risk and trade payment risk

	Default Risk	Trade Payment Risk
Exposure	**Loans and bonds**	**Trade credit**
Primary Objective	Loans and bonds are mainly originated by banks and investors whose primary objective is typically risk-return maximization.	Trade credit is utilized by suppliers to encourage sales. Customers may even be given a discount if they pay off their balances within a certain period.
Duration & Size	Individual exposure is usually large and has a long duration (typically several years).	Depending on the industry practice, a common trade credit term can range from 30 to 90 days or more, which is much shorter than the majority of loans and bonds. Although each trade credit is small, the aggregated amount of trade credit can be a critical source of liquidity for a company.
Cost of collection	When a debtor denies repayment, its creditor can seek assistance from a collection agent, or even take legal action against the debtor. The procedures are usually costly. Creditors can also sell their market tradable exposures at discounted prices (i.e., the implicit cost).	In most jurisdictions, claims below certain thresholds can be made in a small claims court via a low-cost and accelerated procedure. This largely reduces the collection cost of small trade credit. On the other hand, as the creditor and debtor of a trade credit can also act as a supplier and customer, the breakup of two parties may incur indirect costs to the supplier, such as searching costs for new customers, and hinder the supplier's willingness to take prompt action.
Assessment Criteria	Given the long-term nature of loans and bonds (usually several years), the credit assessment is focused more on the PD and the characteristics of the debtors, such as profitability, leverage, and solvency.	For trade credit, more emphasis is put on the short-term financial capabilities, such as liquidity and operational efficiency. Besides the financials, companies' willingness to pay, which can be estimated from their historical payment behaviors, also plays an important role in the assessment. A company may be financially healthy but keep stretching its payments to enjoy interest-free short-term financing. Therefore, the expected payment time is as equally an important measure as the likelihood of on-time payment.

Source: S&P Global Market Intelligence, August 30, 2019. For illustrative purposes only.

Impact of Late Payment

Evidence shows that late payment is an ongoing issue for B2B trade. For example, in the United States (US), suppliers receive, on average, approximately 74% of their receivables on time and experience average payment delays of approximately 39 days on overdue receivables.[1] Late payment reduces companies' willingness to offer trade credit due to the uncertainty of cash inflow and, hence, leads to a slowdown in sales growth. It may also force companies to focus on day-to-day activities rather than longer-term plans for expansion. There is evidence showing a negative correlation between the days a company waits for payment and the level of capital investment it makes.[2] In an extreme case, a cash shortfall owing to late payment may trigger insolvency issues, especially for small- and medium-sized enterprises (SMEs).

[1] "The US: signs of heightening trade credit risk?", Atradius N.V., June 2019.
[2] "Ending late payment", The Association of Chartered Certified Accountants, February 2015.

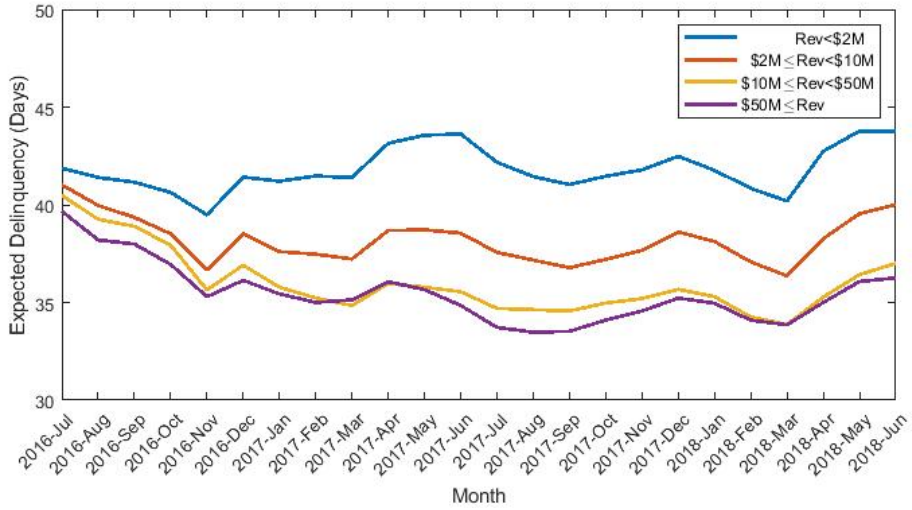
A Statistical Approach for Trade Payment Risk Assessment

If a company does not manage its trade receivables efficiently, it can lead to severe liquidity issues that put a strain on a firm's financial operations. A good trade receivable management framework should include a sound due-diligence process that identifies and assesses the counterparty before granting trade credit (i.e., know your customer or KYC), an active surveillance system on trade receivable balances and delinquency, and a prioritization approach for collection of accounts.

To support a sound trade receivables management system, the S&P Global Market Intelligence Analytic Development Group developed the PaySense Model that calculates the probability and length of payment delay, using historical trade data. This model enables a quick and forward-looking estimate of trade payment likelihood and related expected delinquency (i.e., payment delay).

In Figure 1, we illustrate the monthly average expected delinquency (generated by our model) of data on overdue payments contained in our US Trade Payment Database, which contains over 15 million active companies, with history back to 2013.[3] Companies are grouped and plotted according to their size for comparison purposes. Small companies tend to pay off their balances, on average, later than large companies. This is probably due to the lack of financing sources for small businesses, causing them to stretch their payments as a way of enhancing cash flow. From mid-2016 to mid-2018, the deviation in expected delinquency between the micro-enterprises (total revenues less than $2 million USD) and the large corporates (total revenues more than $50 million USD) widened from two days to eight days, indicating different responses to rising interest rates and the depreciating US dollar in that period.

Figure 1: US monthly average of expected delinquency of overdue payment by company size, July 2016 to June 2018.

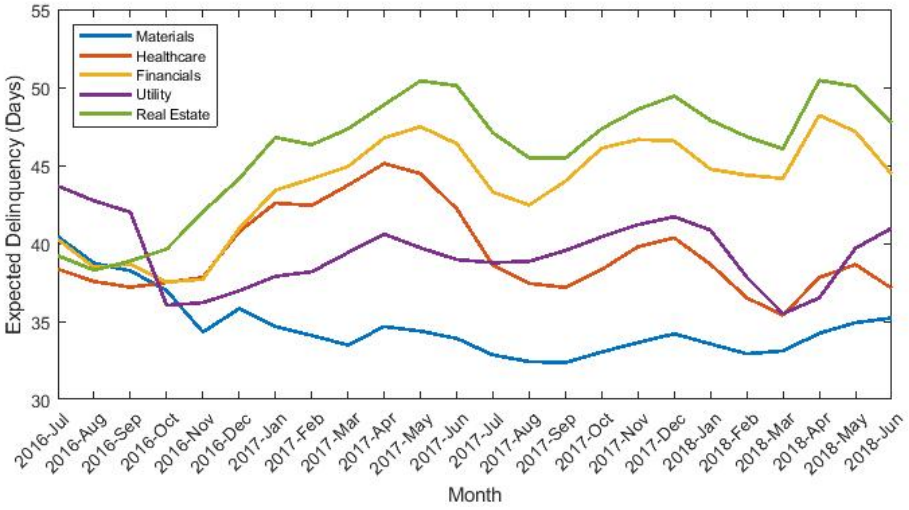


Source: S&P Global Market Intelligence, August 30, 2019. For illustrative purposes only.

[3] As of August 6, 2019.

The severity of late payments also varies across industry sectors (see Figure 2). Sectors such as Healthcare and Utilities are less sensitive to the macroeconomic environment and, hence, have stable payment behavior. In contrast, a noticeable change in payment behavior can be observed for cyclical sectors, such as Financial Services, Real Estate, and Materials.

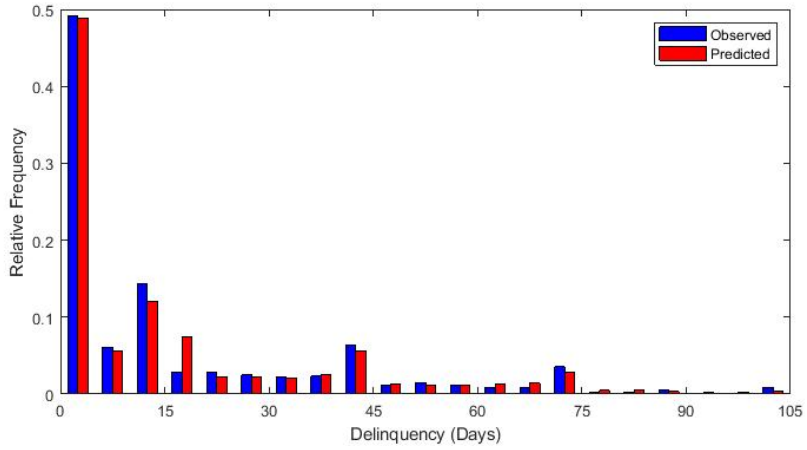
Figure 2: US monthly average of expected delinquency of overdue payment by industry sector, July 2016 to June 2018



Source: S&P Global Market Intelligence, August 30, 2019. For illustrative purposes only.

In addition, the distribution of model predictions and the distribution of empirical values on the model development sample are plotted in Figure 3. The alignment between the two distributions indicates a high rate of model accuracy for predicting the payment behavior of companies.[4]

Figure 3: Distribution of observed and expected delinquency on model development samples



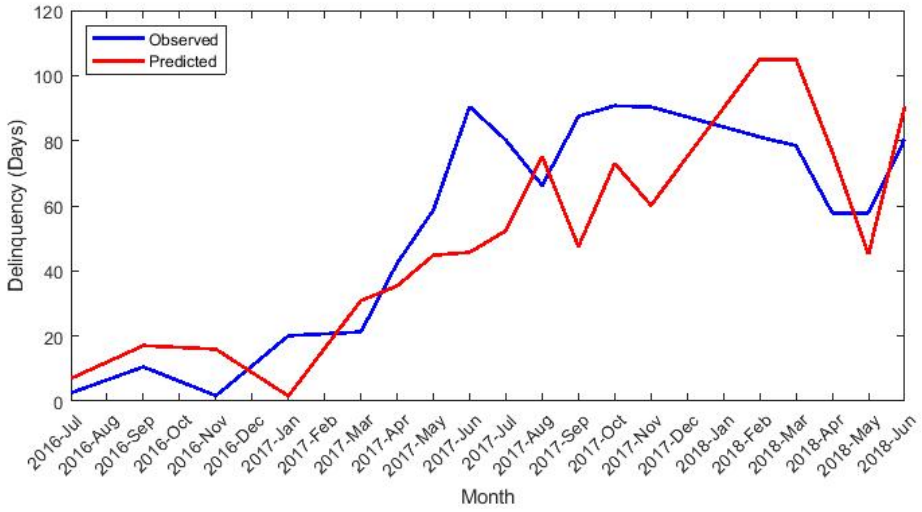
Source: S&P Global Market Intelligence, August 30, 2019. For illustrative purposes only.

[4] In the context of this article, accuracy is defined as the fraction or percentage of the predictions the model calculated correctly.

The model also works well at an individual company level. In

Figure **4**, we show the expected delinquency (predicted by the model) and the observed values of an Outdoor Equipment Retailer, Gander Mountain Co., headquartered in Minnesota. We can see from the plot that the model captured the deterioration in payment behavior that started at the beginning of 2017.

Figure 4: Observed and predicted delinquency of Gander Mountain Co., July 2016 to June 2018



Source: S&P Global Market Intelligence, August 30, 2019. For illustrative purposes only.

In addition to the PaySense Model, users of S&P Capital IQ platform or Market Intelligence platform can access the profiles and financials of public and private companies (from local micro-enterprises to multinational conglomerate corporations) to use in a KYC analysis or to assess the counterparty credit risk of their (prospective) customers using Credit Analytics' quantitative models:[5] CreditModel™, PD Fundamentals Model, and PD Market Signals Model.

For more information on the PaySense model, and other Credit Analytics offerings, please visit www.spglobal.com/marketintelligence/en/solutions/credit-analytics.

[5] Credit Analytics is an S&P Global Market Intelligence product that delivers credit scores, models, and tools for running risk analysis on rated, unrated, public, and private companies.

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