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Interpreting Credit Scores

The risks revealed by credit scores change with the economy_p. 34

PAYNET

Exclusive RMA Study
By PayNet, Inc.

Economic Recovery
and the Changing Landscape for U.S. Small Businesses

••Quantifiable data and analysis can provide insight into the financial health of small businesses, the state of economic recovery, lending trends, and risk forecasts.

BY WILLIAM PHELAN

SMALL BUSINESSES ARE among the most important drivers of U.S. economic growth and have become the centerpiece of the recovery. Although no one knows precisely how much small businesses contribute to the U.S. economy, statistics suggest they represent 50% of gross domestic product, employ 50% of the private workforce, and are the source of most job creation.

The perplexing aspect of the small business economy is not its importance as the engine of U.S. growth, innovation, and competitive edge, but rather how little we know about it. This limited knowledge hinders bankers, the primary providers of capital through loans, lines of credit, and leases.

In a study for *The RMA Journal,* PayNet, Inc. conducted an extensive analysis of its proprietary database of 17 million commercial and industrial (C&I) loans, totaling $740 billion, made to millions of U.S. small businesses. This study looked at the actual borrowing and risk behaviors of millions of small U.S. companies across SIC categories representing a cross section of industries. By examining borrowing activities and default rates by industry and geographic region, PayNet was able to gather information on the direction of small business sectors. The data focuses on businesses with total C&I exposures of less than $1 million on term loans, commercial equipment leases, and lines of credit.

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By examining borrowing activities and default rates by industry and geographic region, PayNet was able to gather information on the direction of small business sectors.

Because small businesses generally respond to changes in economic conditions more rapidly than larger businesses, this study uses the Thomson Reuters/PayNet Small Business Lending Index (SBLI), which serves as a leading indicator of the economy, using lending activity from major commercial credit providers across the nation. Research shows that the index leads change in GDP by between two and five months. Small businesses are tracked by 21 primary industries to profile recent borrowing and credit trends.

This study presents loan default rates of small businesses for the top 21 aggregate SIC categories during the 2006–09 period. To measure defaults, we use a definition that considers the status of the entire borrowing relationship between lenders and the borrower, not just loan delinquency.

The study also provides a forward-looking risk forecast by industry and

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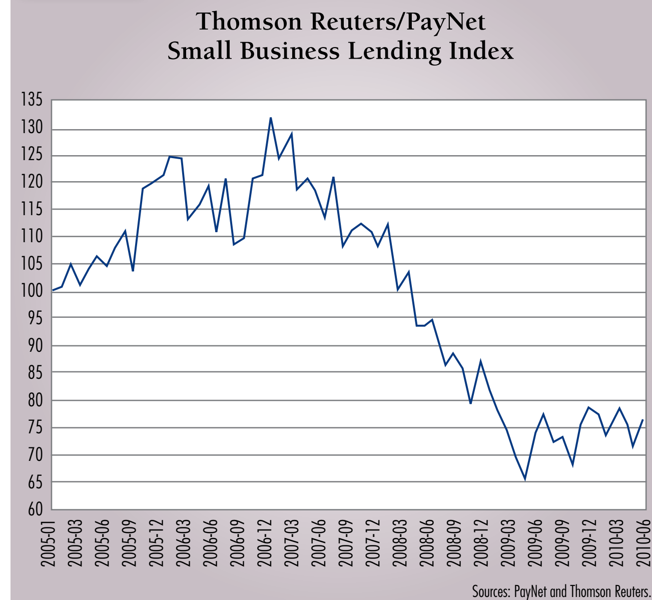
Figure 1



geographic region, estimating the probability that small businesses will default on their loan obligations. This probability is derived from AbsolutePD, a risk forecasting system built by Darrell Duffie of the Stanford Graduate School of Business. AbsolutePD provides estimates of default on individual obligors using their loan payment characteristics in combination with macroeconomic factors. These default estimates for millions of business borrowers are then combined at the portfolio, industry, and geographic levels to form a risk outlook for 2010–11.

The upward trend in the SBLI Index over the past year indicates that small companies are starting to borrow and expand again.

Historical Loan Borrowing Activity

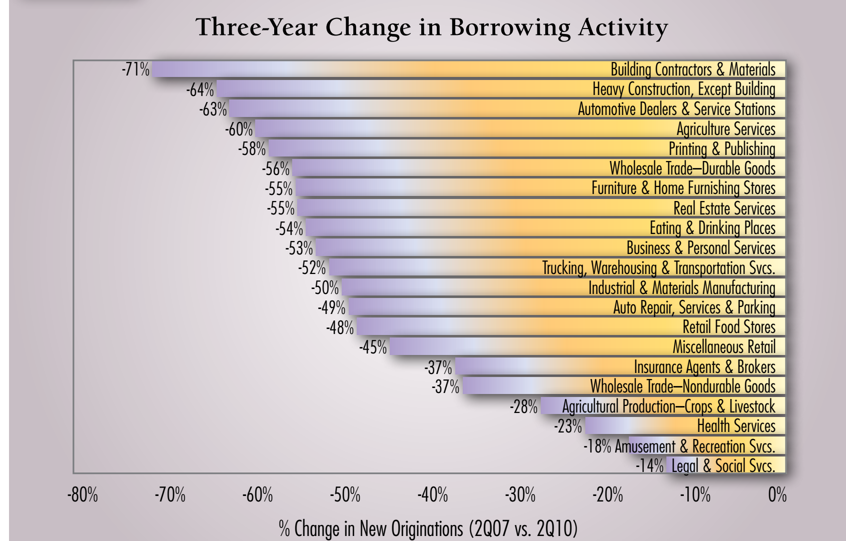
The National Bureau of Economic Research (NBER) dates the start of the recent recession at December 2007. The NBER reports that GDP began growing again in the third quarter of 2009, when it expanded 2.2% over the prior year.

A look at the Thomson Reuters/PayNet SBLI reveals a slightly different story. Figure 1 shows that small businesses began to reduce borrowing dramatically as early as the first quarter of 2007, well before the official start of the recession. By December 2007, the official start of the recession, the SBLI had already exhibited several quarters of pullback and was clearly on a trend line indicating recession. The trough of the SBLI occurred in May 2009, when business borrowings shrank more than 30% versus the prior year. Since then, the SBLI has indicated recovery, growing 16% as of June 2010. The index tells us that the small business economy does not necessarily mirror the recovery pattern of larger corporations, at least in this recession.

The upward trend in the SBLI Index over the past year indicates that small companies are starting to borrow and expand again. Although the March 2010 expansion is being compared with severely depressed levels in 2009, it is a welcome expansion nonetheless. The question for lenders is the degree of expansion and the concurrent rate of growth they can expect in business banking. Although growing year over year, the SBLI actually has trended down 3% since December 2009. According to the FDIC Quarterly Banking Profile, during the same period, C&I loans contracted only 2.7%, indicating that bankers are making substantial efforts to grant credit to small businesses. So the real question is, how can bankers safely grow their C&I loans faster than the growth rate of the economy?

A review of the change in borrowing activity for the top 21 SIC categories reveals the hardest-hit areas of the small business economy (Figure 2). For this study, we looked at the fall in borrowing activity from the second quarter of 2007 to the second quarter of 2010. During that period, the Thomson Reuters/PayNet Small Business Lending Index declined 44%. Of course, averages tend to be misleading. A look at the top 21 SIC categories indicates the substantially different borrowing activity of industry segments. It's no surprise that, of all the types, Building Contractors and Materials cut borrowing activity the most: 71%.

Figure 2



Four other SIC categories experienced big declines in borrowing and were also areas hit hard by the recession: Heavy Construction, down 64%; Automotive Dealers, down 63%; Agriculture Services (which includes housing-related segments such as Retail Nurseries and Landscaping Services), down 60%; and Printing and Publishing, down 58%.

Small businesses tend to be captives of their local markets. Their success usually depends on the immediate geographic region in which they operate and the industry they serve. The U.S. Commerce Department asserts that the market area of most small businesses consists of a single county. Industry and geographic concentration helps explain the substantial fall in borrowing activity for many of the top SIC categories in this study.

The sectors contracting the least provide a view into the changing nature of the U.S. small business economy. Legal and Social Services reduced their loans only 14% over the three-year period. Clearly, the increased regulatory environment will continue to be a boon to legal practices. Health Services borrowed only 23% less, which may owe to a number of factors that predate the health care reform bill. The bill's impact on the future of Health Services remains to be seen.

Conflicting performances of certain related SIC categories begin to make sense when considered in the context of the recession. Automotive Dealers reduced borrowing 63%, while Auto Repair Services Providers borrowed only 49% less. Although the message is obvious—consumers bought fewer cars and spent more on repairing the ones they already own—the measurable changes offer bankers a context for the recession's effect on the automotive segments.

Historical Loan Default Rates

Credit risk is the risk that those who borrow money from a bank will fail to pay back interest and principal in a timely manner, or at all—in other words, the borrower will default on the loan. Credit risk consists of three components:

- Probability of default (PD): The probability of a default during a given period of time (assessment period).
- Credit exposure (EAD): The outstanding obligation when the default occurs.
- Recovery rate (RR): The fraction of the exposure that may be recovered in the event of a default and loss given default (LGD), which is one minus the recovery rate.

Each of the above items is critical in determining credit risk. The PD is most important, but also the most difficult to determine. Prior to default, it is difficult to discriminate between firms that will default and those that will not.

Table 1

Actual Default Rates by Major SIC Category

Industry Segment	Actual Historical Default Rates			
	2006	2007	2008	2009
Trucking, Warehousing & Transportation Svcs.	4.6%	6.8%	10.6%	12.7%
Printing & Publishing	3.8%	3.8%	7.3%	11.3%
Building Contractors & Materials	2.5%	3.7%	6.9%	10.1%
Heavy Construction, Except Building	1.8%	3.0%	5.6%	9.0%
Real Estate Services	3.5%	5.7%	8.0%	8.6%
Furniture & Home Furnishing Stores	4.3%	4.1%	6.9%	8.3%
Business & Personal Services	3.5%	3.8%	6.1%	7.8%
Automotive Dealers & Service Stations	2.9%	2.5%	6.2%	7.5%
Retail Food Stores	2.4%	3.2%	4.3%	7.4%
Auto Repair, Services & Parking	3.8%	4.0%	4.4%	6.8%
Industrial & Materials Manufacturing	2.1%	1.8%	3.1%	6.4%
Eating and Drinking Places	3.6%	4.5%	5.9%	6.3%
Miscellaneous Retail	3.6%	3.8%	4.8%	5.4%
Wholesale Trade—Durable Goods	2.0%	2.7%	3.8%	5.2%
Agriculture Services	2.4%	2.8%	4.7%	5.1%
Health Services	2.3%	2.9%	3.6%	4.1%
Insurance Agents & Brokers	2.6%	2.2%	3.1%	3.9%
Amusement & Recreation Services	2.7%	3.5%	3.9%	3.8%
Membership/Legal/Social Services	1.9%	2.5%	3.3%	3.5%
Wholesale Trade—Nondurable Goods	1.8%	2.1%	2.4%	3.0%
Agricultural Production—Crops & Livestock	1.8%	1.2%	1.1%	2.3%
All Industries	**2.8%**	**3.6%**	**5.4%**	**6.9%**

The lack of historical default rates by small business segments has probably limited decision-making by bankers, policy makers, and regulators. In particular, bankers, unsure if losses will exceed their tolerance for risk, likely held back extension of credit to small businesses. But it is possible to measure historical default rates by industry, portfolio, or borrower. And having such information enables bankers to better manage concentration risk, control portfolio defaults, and price loans.

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Before looking at the numbers, we must first define small business default. Default can be triggered by many metrics, including some of the following: 90 or more days past due on a dollar-weighted basis for all contracts within the "relationship";

Table 2

Housing-Related Industry Delinquency Rates

31+ Day Delinquency %	Dallas	Phoenix	National Average	Dallas vs. Phoenix
Mortgage Bankers & Brokers	5.1%	19.4%	9.4%	-14.3%
Retail Trade—Consumer Electronics & Home Furnishings	5.4%	11.8%	4.2%	-6.4%
Retail Trade—Retail Nurseries & Garden Stores	10.8%	16.0%	4.1%	-5.2%
Construction—Painting, Carpentry, Marble/Tile	7.4%	11.2%	6.4%	-3.8%
Real Estate Agents, Subdividers/Developers	4.5%	8.2%	4.9%	-3.7%
Lawn, Garden & Other Landscape Services	4.4%	7.8%	5.6%	-3.4%
Architectural, Engineering, Surveying	4.3%	7.6%	3.7%	-3.3%
Construction—Concrete, Demolition, Excavating	10.6%	13.5%	8.0%	-2.9%
Construction—HVAC, Electrical, Plumbing, Drywall	2.3%	2.8%	3.7%	-0.5%
Construction—Residential Builders & Contractors	6.3%	6.1%	6.6%	0.2%
Wholesale Trade—Furniture & Electrical Goods	3.4%	3.2%	2.9%	0.2%
Wholesale Trade—Brick, Stone, Lumber, Hardware, HVAC	4.9%	4.6%	3.7%	0.3%
Retail Trade—Home-Building Materials	3.3%	2.5%	3.5%	0.8%
Average of Housing-Related Industries	**5.2%**	**7.3%**	**5.3%**	**-2.1%**
Average of All Other Industries	**4.0%**	**4.7%**	**3.3%**	**-0.7%**

Average 31+ Day Delinquency for the first six months of 2010 for selected housing-related industries.

a major "bad" status, such as bankruptcy, repossession, or legal action; or loss/write-off greater than $5,000 and at least 5% of the outstanding obligations. The "relationship" definition of default is used to calculate historical default rates using the PayNet database of loan-payment-history performance.

Table 1 summarizes the historical default rates for the top 21 SIC categories for small businesses with total loan exposures of less than $1 million.

All industry segments tied to the housing and residential real estate market suffered during the recession, although the degree of pain is a function of the geographic region in which the business operates.

Table 1 clearly shows the relative risks of small-business industry segments during the Great Recession. We can see immediately that 6.9% of small businesses were unable to meet their principal and interest payments on time during 2009, contradicting the perception that small businesses are high risk. According to recent default studies published by Moody's Investors Service, the global speculative-grade default rate reached a post-WWII high of 12.97% in 2009, which is nearly double the 6.9% rate for small businesses.

Clearly, not all small business industries performed the same in 2009. Trucking, Warehousing, and Transportation Services exhibited the highest loan defaults of all major SIC categories at 12.7%. Printers and Publishing as well as Building Contractors and Materials also exhibited double-digit default rates in 2009. These default rates make sense given the economic environment. Trucking has undergone a series of challenges starting with the rapid rise in fuel prices in 2006. And the collapse of consumer spending during the recession has reduced the amount of freight tonnage, with the result that more transportation services companies failed to meet loan payments.

Printing and Publishing is a slightly different story. Paper-based media has suffered advertising losses due to marketers cutting back on paper-based ads and turning to cheaper, more widely read digital alternatives. Book publishers have shifted toward electronic distribution of books to meet changing consumer tastes. The substantial capital investment in a large printing press represents high fixed costs that are difficult to cover as the volume of printing falls. The Printing and Publishing segment is facing technological obsolescence as a result of this shift, requiring printers to adjust their business model to offer value-added services.

Real Estate Services along with Furniture and Home Furnishing Stores were clearly victims of the economic environment. These businesses exhibited loan default rates of 8.6% and 8.3%, respectively. The higher defaults of these businesses, which make their living serving the housing market, are probably driven more by the general economic collapse than poor management.

All industry segments tied to the housing and residential real estate market suffered during the recession, although the degree of pain is a function of the geographic region in which the business operates. To highlight this issue, PayNet conducted a special "Tale of Two Cities"—a comparison of the residential housing suppliers in Dallas and Phoenix that shows location does matter. Suppliers to the housing markets in these two cities experienced vastly different fortunes as a result of their geographic location (Table 2).

According to the U.S. Census Bureau, permits for 9,582 new homes were issued in Dallas year-to-date through June 2010. During the same period, Phoenix authorized only 4,870 new home permits. Dallas, with a population of approximately 1.3 million people, is about 20% smaller than Phoenix, which has 1.6 million people. How is it that Dallas, with a smaller population, issued almost twice as many new home permits as Phoenix?

This data illustrates the dramatic effect the local economy can have on housing industry suppliers and service providers in select geographic regions. Although the recession is impacting suppliers to the Dallas housing industry, their loan delinquency rates are almost 30% lower than for home suppliers to the Phoenix region. Clearly, the rising tide of new home permits, driven by lower unemployment in the Dallas area, has lifted the fortunes of most suppliers to the housing industry in Dallas. Mortgage brokers perform better in the Dallas economy compared to the national average and certainly better than mortgage brokers in the Phoenix area.

Opening a retail nursery and garden store in the Dallas market at this point in time is not recommended. However, Dallas-based retail consumer electronics companies are performing much better than those in Phoenix. As Tip O'Neill said, "All politics is local," and so is small business lending. Business location and local economics do matter and need to be a part of the banker's assessment of lending opportunities.

A look at the lowest-risk segments shows which business types were the most attractive to lenders in 2009. Agricultural Production had the lowest risk of all industries (Table 3), which partly explains the differing performance between community bankers in rural areas versus those in urban areas. Indeed, this author knows of several small-town banks in southern Illinois that have achieved record financial performances during the past several years. Many rural community banks, particularly those in the Corn Belt, have been immune to the struggles of the urban-based banks that invested heavily in the commercial real estate and housing markets.

Table 3

Industry Segment Risk-ranking Migration, 2006–2009

Industry Segment	Actual Historical Default Rates				Ranking Change
	2006	2006 Rank	2009	2009 Rank	
Trucking, Warehousing & Transportation Svcs.	4.6%	21	12.7%	21	0
Printing & Publishing	3.8%	19	11.3%	20	1
Building Contractors & Materials	***2.5%***	10	***10.1%***	19	9
Heavy Construction, Except Building	***1.8%***	2	***9.0%***	18	16
Real Estate Services	3.5%	14	8.6%	17	3
Furniture & Home Furnishing Stores	4.3%	20	8.3%	16	-4
Business & Personal Services	3.5%	15	7.8%	15	0
Automotive Dealers & Service Stations	2.9%	13	7.5%	14	1
Retail Food Stores	2.4%	9	7.4%	13	4
Auto Repair, Services & Parking	***3.8%***	18	***6.8%***	12	-6
Industrial & Materials Manufacturing	2.1%	6	6.4%	11	5
Eating and Drinking Places	***3.6%***	16	***6.3%***	10	-6
Miscellaneous Retail	***3.6%***	17	***5.4%***	9	-8
Wholesale Trade—Durable Goods	2.0%	5	5.2%	8	3
Agriculture Services	2.4%	8	5.1%	7	-1
Health Services	2.3%	7	4.1%	6	-1
Insurance Agents & Brokers	***2.6%***	11	***3.9%***	5	-6
Amusement & Recreation Services	***2.7%***	12	***3.8%***	4	-8
Membership/Legal/Social Services	1.9%	4	3.5%	3	-1
Wholesale Trade—Nondurable Goods	1.8%	3	3.0%	2	-1
Agricultural Production—Crops & Livestock	1.8%	1	2.3%	1	0
All Industries	**2.8%**	–	**6.9%**	–	–

Wholesale Trade—Nondurable Goods was one of the least risky industry segments during the Great Recession. Its businesses displayed a relatively low 3% default rate in 2009, which is less than half the default rate for all small businesses. This segment consists of businesses engaged in the wholesale distribution of paper and paper products, drugs, apparel, groceries, farm-product raw materials, petroleum, beer, wine, alcoholic beverages, and other miscellaneous nondurable goods. This group of businesses resisted the downturn by offering basic necessities and a diversity of products. Clearly, the nature and broad array of nondurable goods make wholesale distributors an attractive industry class during recessionary times.

Changing fortunes of small-business industry groups are evident by the change in risk rankings between 2006 and 2009. A ranking change of more than 6—positive or negative—indicates the economy's dramatic impact on particular industry segments (italicized in Table 3).

Heavy Construction saw its relative risk ranking change the most during the recession. In 2006 this segment was the second least risky of the small business economy. But by 2009, its fortunes had changed and it became one of the riskiest segments, rising in the risk ranking by 16 places. Meanwhile, Building Contractors experienced a change in risk ranking of nine places. The issue for bankers is how to track the changing fortunes of industry segments to avoid or limit the damage from the industries showing rapidly increasing defaults. Auto Repair, Eating and Drinking, Miscellaneous Retail, Insurance Agents, and Amusement and Recreation all exhibited substantial improvements relative to other sectors over this same period.

Having the ability to shift into less risky segments amid changing economic cycles is critical to the long-term success of business banking.

Having the ability to shift into less risky segments amid

Table 4

Forecast Default Rates by Industry Segment

Industry Segment	Forecast Default Rates	
	2010	2011
Trucking, Warehousing & Transportation Svcs.	8.2%	6.2%
Printing & Publishing	7.3%	5.0%
Building Contractors & Materials	6.7%	4.8%
Heavy Construction, Except Building	5.9%	4.3%
Real Estate Services	4.9%	3.6%
Furniture & Home Furnishing Stores	5.6%	4.2%
Business & Personal Services	5.0%	4.2%
Automotive Dealers & Service Stations	3.7%	3.5%
Retail Food Stores	4.0%	4.0%
Auto Repair, Services & Parking	4.4%	4.0%
Industrial & Materials Manufacturing	4.6%	3.5%
Eating and Drinking Places	5.0%	4.6%
Miscellaneous Retail	4.4%	3.9%
Wholesale Trade—Durable Goods	4.1%	3.7%
Agriculture Services	4.5%	3.3%
Health Services	2.7%	2.8%
Insurance Agents & Brokers	2.5%	2.6%
Amusement & Recreation Services	3.5%	4.1%
Membership/Legal/Social Services	2.8%	2.8%
Wholesale Trade—Nondurable Goods	2.9%	3.3%
Agricultural Production—Crops & Livestock	2.0%	2.0%
All Industries	**4.6%**	**3.9%**

Forecast defaults are based on existing portfolio.

changing economic cycles is critical to the long-term success of business banking. Clearly, bankers must understand the volatility of various industry segments and incorporate this knowledge into their loan pricing to maintain profits through the economic cycle.

Risk Outlook 2010–11

By combining historical loan defaults with macroeconomic factors, we can obtain data for forecasting probabilities of default using Darrell Duffie's rating system. The good news going forward is that risk in the small business economy appears to be lessening, at least as of this writing.

As Table 4 shows, the overall default rate forecast for a composite of U.S. small businesses is falling, to an estimated 3.9% by year-end 2011 from 6.9% in 2009. This projection for 2011 nearly brings the small business segment to default rates that represent a return to a more stable economy, similar to the levels before the Great Recession. As mentioned previously, geographic conditions do vary and result in varied default performances for different regions of the country. Likewise, the unique characteristics of a particular bank's portfolio will also cause the forecasts for probabilities of default to vary by lender.

Conclusion

With little information available on the small business economy, and most of it anecdotal, business bankers are facing significant challenges in efforts to meet the Obama administration's demands for credit expansion. Small businesses are opaque, they change over time, there are interownership relationships between them that are difficult to track, and they exhibit rapid closings and start-ups.

That we know so little about small businesses probably impedes their access to capital. Small businesses are not transparent to bankers, and much of the successful lending can be attributed in part to personal relationships. Given these hurdles, it is a testament to the bankers and the small business owners that this lending occurs with any great frequency.

Nevertheless, a random approach to commercial lending can produce unintended and disastrous effects on a bank's profitability. With C&I lending as a strategic growth initiative of the banking industry, bankers need to show they can make sound lending decisions during a time of continued economic uncertainty. And when political pressure to make credit available to small businesses is added into the equation, the pressure on bankers to lend becomes intensified.

The intractable problem for commercial bankers is that loan losses do not become apparent until well into the economic cycle, and by then it is too late. By the time a bank discovers it has a problem, it may have already booked a portfolio of poor-quality loans that will take years to work out. Bankers can partly solve this problem by gaining a better understanding of the risks and growth opportunities of small businesses. In particular, understanding default rates through the economic cycle can help bankers accurately price for risk.

Commercial bankers should find the results of our study helpful in efforts to make more profitable management decisions at a time of shrinking loan demand and increased regulatory scrutiny. Determining which industries, business types, and geographic areas of the country are recovering faster than the national average—and which are lagging—is fundamental to targeting more profitable sectors. ❖

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