

ANALYSIS

RSM US Middle Market Business Index

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RSM US LLP has joined forces with Moody's Analytics to produce a first-of-its-kind gauge of middle market business health. An important but understudied part of the U.S. economy, the middle market (the real economy) is defined here as companies with annual revenues of \$10 million to \$1 billion. There are close to 200,000 firms in the U.S. that fall into this category, and together they account for about 40 million jobs and one-third of private sector gross receipts.¹

The significant role that middle market companies play in the U.S. economy makes them important to track on a real-time basis. Although geographically diverse and spanning all private industries, the middle market is also predominantly made up of privately held firms for which there are few good sources of timely, public information. A lot of surveys target large and small companies, for example, but very few poll middle market companies and their executives. As a result, their issues and needs are underrepresented in policy and economic discussions.

In order to bridge the information divide, RSM US LLP is polling executives of middle market companies to gain insight into how this part of the economy thinks and behaves. The RSM US Middle Market Business Index is a comprehensive summary statistic for the state of the middle market that we construct from a subset of survey questions.

¹ Statistics of U.S. Businesses, 2012

Background

Middle market firms are impossible to ignore, given their outsize contribution to the U.S. economy. Yet historically, these companies have been hard to evaluate because of a lack of timely data and lack of agreement on what qualifies as a middle market company. In order to isolate the middle market, companies must be separated into three categories—small, medium and large. However, there is no one metric for comparing company sizes, and limits that define the middle market are not set.

There is very little public data on the middle market, making this part of the economy difficult to study. The most commonly used public data source for the middle market is the Census Bureau's Statistics of U.S. Businesses. Data include the number of establishments, employment, annual payroll, and sales receipts by employment and size of enterprise. However, the data are not very timely, reported only every five years.

Other sources in the private sector are helping to fill in the gap. Revenues at middle market firms have risen faster than those for small and large businesses in recent years, for example.² In addition, the vast majority of net new jobs added since 2008 have come from middle market firms.³

Building on previous work done in the field, we use an upper limit of \$1 billion and lower limit of \$10 million to define the middle market. To better understand the impact of this enormous economic segment, middle market executives are polled and a summary measure created to provide fresh insight into the middle market's immediate prospects and the U.S. economy as a whole.

Survey

The survey, which kicked off in the first quarter of 2015, is conducted four times a year, in the first month of each quarter: January, April, July and October. The survey panel consists of 700 middle market executives and is designed to accurately reflect conditions in the middle market.

The data for each quarter are weighted to ensure that they correspond to the U.S. Census Bureau data on the basis of industry representation. Using the census data as a representation of the population of middle market firms, each survey respondent is assigned a weight based on the industry that the respondent belongs to so that results are representative of the middle market population. Each respondent is classified into an industry from the North American Industrial Classification System that is used by the Bureau of Labor Statistics.

Companies are classified into the following NAICS private industries: (1) agriculture, forestry, fishing and hunting, (2) mining, quarrying, and oil and gas extraction, (3) utilities, (4) construction, (5) manufacturing, (6) wholesale trade, (7) retail trade, (8) transportation and warehousing, (9) information, (10) finance and insurance, (11) real estate and rental and leasing, (12) professional, scientific and technical services, (13) administrative and support and waste management, (14) educational services, (15) healthcare and social assistance, (16) arts, entertainment, and recreation, (17) accommodation and food services, and (18) other services except public administration.

Index

The RSM US Middle Market Business Index, or MMBI, is derived from the subset of questions in the survey that ask respondents to report the change in a variety of indicators. Respondents are asked a total of 20 questions patterned after those in other business surveys, such as those from the Institute of Supply Management and National Federation of Independent Businesses.

The 20 questions relate to changes in various measures of their business, such as revenues, profits, capital expenditures, hiring, employee compensation, prices paid, prices received and inventories. There are also questions that pertain to the economy and outlook, as well as to credit availability and borrowing. For 10 of the questions, respondents are asked to report the change from the previous quarter; for the other 10 they are asked to state the likely direction of these same indicators six months ahead (see Table 1).

² The National Center for the Middle Market

³ Dun & Bradstreet and Automatic Data Processing Inc.

Table 1: RSM US Middle Market Business Index Questions

1. What are your expectations regarding the general economy?
 2. What are your expectations regarding your organization's gross revenues?
 3. How would you describe the level of your most recent quarter net earnings results?
 4. What are your expectations regarding your organization's aggregate capital expenditures or investments?
 5. What are your expectations regarding your organization's overall hiring levels?
 6. How would you describe the current employee compensation level on average?
 7. How would you describe current access to credit?
 8. What are your expectations regarding your organization's planned borrowing?
 9. How would you describe the current general level of prices received?
 10. What are your expectations regarding your organization's planned inventory levels?
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The responses to each question are reported as diffusion indexes. Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change and the scope of change. Participants are asked whether something has changed, and if so, in which direction. Respondents are allowed five choices in their answers, two positive, two negative and no change. The two options for positive and negative responses are treated equally in the calculation. Participant responses of no change do not enter into the calculation.

The questions to construct the index are symmetric, such as whether the respondent expects the economy to be better or worse in the next six months and plans to increase or decrease the number of people working for the firm. Responses are raw data and are never revised. A balance variable or diffusion index is formed for each of the 10 questions in the index. The percent of unfavorable responses is subtracted from the percent of the favorable responses to provide a net percent variable.

The MMBI is a composite index computed as an equal weighted sum of the diffusion indexes for 10 survey questions plus 100 to keep the MMBI from becoming negative. The index is designed to capture both current and future conditions, with five questions on respondents' recent experience and five on their expectations for future activity.

The MMBI, for period t , can be derived using the following equation:

$$MMBI_t = \frac{Q1 + Q2 + Q3 + Q4 + Q5 + Q6 + Q7 + Q8 + Q9 + Q10}{10} + 100$$

Over the course of a year, respondents' answers to index questions may undergo regularly occurring fluctuations. To the extent that these fluctuations are seasonal events that follow a regular pattern, their influence on the index can be tempered by adjusting for regular seasonal variation.

Thus, once enough observations exist each question in the index will be seasonally adjusted when stable seasonality is detected. The seasonal adjustment will be based on the Census Bureau's X-12 additive procedure and will utilize a logistic transformation.

For this adjustment the "increase" and "decrease" percentage components of each index question will be tested for seasonality separately and adjusted accordingly if such patterns exist. If no seasonality is detected, the component will be left unadjusted.

Data are adjusted using a logistic transformation. The not seasonally adjusted series, expressed in decimal form and referred to as NSA, is transformed using the following equation:

$$X = \log\left(\frac{NSA}{1 - NSA}\right)$$

The seasonal factor is then subtracted from X :

$$AdjX = X - \text{seasonal factor}$$

The result is transformed using the following equation:

$$SA\ series = \frac{\text{exponential}(AdjX)}{1 + \text{exponential}(AdjX)}$$

One advantage of diffusion indexes is that they are easy to interpret. A reading above 100 for the MMBI indicates that the middle market is generally expanding; below 100 indicates that it is generally contracting. The distance from 100 is indicative of the strength of the expansion or contraction.

Information content

One way to determine whether a survey can provide useful information is to look at how well similar surveys have explained or predicted activities in the past. Since the MMBI is constructed using a set of questions that are patterned after those in other widely followed business surveys, there is good reason to believe that the MMBI will prove valuable in explaining and predicting the performance of the middle market economy.

Forecasters and policymakers alike look to surveys such as those from the Institute of Supply Management and National Federation of Independent Business for predictive insight into the parts of the economy that they aim to represent. Often, these are also useful guides to the direction of the economy as a whole, making them valuable for forecasters and policymakers.

The MMBI will fill a gap in coverage of the middle market and enhance our understanding of the middle market. For example, because middle market firms have played such a critical role in the job creation process in recent years, the MMBI employment measures should have a strong relationship to measures of aggregate employment growth and other labor market indicators.

The collective actions of middle market firms have a major impact on the U.S. economy. The economic indicators pioneered by NFIB and ISM indexes are shown to have a strong empirical relationships to important economic measures such as growth in GDP, unemployment and inventory investment. Over time, the MMBI will be similarly useful as an indicator of the middle market and economy as a whole.

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