Insight

U.S. Recession Scorecard

May 2023

Wealth

Management

Jim Allworth

Vancouver, Canada jim.allworth@rbc.com

Sliding toward an economic downturn

Our Recession Scorecard, whose seven constituents were giving the U.S. economy a unanimous greentinted thumbs up just 11 months ago, has been progressively sliding toward a more negative reddish hue. Three of our seven leading indicators of U.S. recession-two of them with perfect forecasting track records-continue to signal an economic downturn is on the way, and accordingly are in the recessionary red category on the Scorecard. Now two further indicators-monthly unemployment claims and the federal funds rate relative to the growth rate of the economy-look to be headed toward giving negative signals. We

have shifted both from green to a cautionary yellow.

A sixth indicator, the unemployment rate, has meandered near a multidecade low for the past 12 months, but even a modest bump up to 4% over the next couple of months is all that would be required to turn that trend higher. Such a trend shift has typically happened just as, or only a few months before, past recessions have gotten underway.

The remaining indicator—the free cash flow generated by non-financial businesses—is still well within expansionary territory but is moving (slowly) in the wrong direction.

U.S. recession scorecard

	Status		
Indicator	Expansionary	Neutral	Recessionary
Yield curve (10-year to 1-year Treasuries)			\checkmark
Unemployment claims		\checkmark	
Unemployment rate	\checkmark		
Conference Board Leading Economic Index			✓
Free cash flow of non-financial corporate business	\checkmark		
ISM New Orders minus Inventories			✓
Fed funds rate vs. nominal GDP growth		\checkmark	

Source - RBC Wealth Management

For important and required non-U.S. analyst disclosures, see page 5.

All values in U.S. dollars and priced as of market close, April 30, 2023 unless otherwise stated.

Produced: May 1, 2023 12:38 pm ET; Disseminated: May 2, 2023 2:45 pm ET

Investment and insurance products offered through RBC Wealth Management are not insured by the FDIC or any other federal government agency, are not deposits or other obligations of, or guaranteed by, a bank or any bank affiliate, and are subject to investment risks, including possible loss of the principal amount invested.

U.S. RECESSION SCORECARD

The indicators that have flipped to recessionary status so far point toward a recession getting underway by late Q2 or early Q3 2023, in our view. It is worth remembering that the official start date of any recession may not be announced until many months or quarters after the fact.

Yield curve (10-year to 1-year Treasuries)

The 1-year Treasury yield rose above the 10-year yield decisively last July, and the negative gap has widened over the past nine months. **The history of this indicator suggests the U.S. economy will be in recession by summer 2023.**

This so-called "inversion of the yield curve" has been the most reliable harbinger of a U.S. recession for many decades, occurring on average about a year before the economic downturn begins.

The 1-year Treasury yield rising above the 10-year yield is indicative of the arrival of tighter credit conditions. Adding weight to the "tight money" message coming from the yield curve, the Fed's most recent Senior Loan Officer Survey (released in January) revealed that a growing majority of U.S. banks have continued to raise lending standards on almost every category of business and consumer loan, extending a trend that began about a year ago. The bank turmoil of recent weeks has likely added to the upward pressure on lending standards. The next survey should be published in early May, and we expect it to show a continuation of the tightening trend.

The last survey also disclosed that a majority of banks are reporting reduced demand for commercial and industrial loans, as well as for credit card and car loans, presumably in response to the much higher interest rates that now prevail.

ISM New Orders minus Inventories

The difference between the New Orders and Inventories sub-indexes of the ISM Purchasing Managers' Index has turned negative near the start of most U.S. recessions. But it has also registered occasional false positives—signaling a recession was imminent when none subsequently arrived. Moreover, this indicator only relates to activity in the manufacturing sector (some 15% of the U.S. economy) and is derived from a survey rather than hard data. Therefore, we view this as a corroborative indicator—one to pay attention to if other longer-term indicators are implying a recession is on the way. It has been negative since May 2022, from which point it has steadily worsened. This measure has never before reached its current depth without a recession eventually following.

Conference Board Leading Economic Index

Historically, this series has given reliable early warnings of recession. When the index has fallen below where it was a year earlier, a recession has always followed usually two to three quarters later.

This indicator turned decisively negative in Q3 2022, shifting it to the red column on our Scorecard. The latest reading, in March, indicated a further deepening of its negative message. It strongly suggests a U.S. recession will be underway sometime in Q2 or Q3 2023.

Unemployment claims

This series has just undergone a revision of earlier data to account for some distortions introduced by the pandemic. The monthly low for this cycle, previously thought to have been registered last March, now appears to have occurred in September. The cycle low for claims

U.S. RECESSION SCORECARD

has typically been registered about 12 months before the start of the next recession. So, **if no lower reading is posted in the coming months, its history would suggest a recession could get underway this fall.**

Claims have recently bumped up well above that September low, suggesting the smoothed trend may indeed be reversing from downwards to upwards. The fact that both temporary employment and job openings are falling on a year-overyear basis adds to our conviction that the tide is turning for unemployment claims. While we wait either for that shift to be confirmed or for claims to once again subside, this ambiguity warrants shifting the signal to no better than yellow.

Unemployment rate

The unemployment rate set a new five-decade low of 3.4% in January, but it has ticked back up to 3.6%. In our view, a move above 4.0% would signal a recession is on the way. Once that signal is given, on average, it has been eight to nine months from the lowest monthly reading until a recession gets underway—although there have been several instances when the time gap was only two to three months.

Free cash flow of non-financial business

This gives an indication of the ability of such businesses, in aggregate, to internally fund any capital spending they want or need to do. Whenever it falls below where it was a year earlier, a decline in corporate capital spending has typically followed, as has a recession. This number dipped slightly in Q4 2022 but remained elevated, and still appears some way from giving a negative signal. The Q1 reading won't be released until early June.

Fed funds rate vs. nominal GDP growth

Every recession in the past 70 years has been preceded by the federal funds rate rising above the six-month annualized run rate of nominal GDP. (Nominal GDP is GDP not adjusted for inflation.) That run rate has been declining since peaking in Q2 2021. By Q4 2022, it was down to 7.2% but still well above the funds rate, which at the time had risen to 4%. Now the fed funds rate is up to 5.25% and the recently released Q1 GDP data shows the six-month run rate of nominal GDP growth slowing to just 5.9%. We expect nominal GDP to slow further, and by Q2 or Q3 of this year will likely fall below 5%, meeting that historical precondition of recession.

Given that the gap between the fed funds rate and the economic growth rate has narrowed to such a degree, and our view that a negative crossing point likely will be reached within the next few months, we are shifting this indicator from green to yellow.

Weighing up the current positioning of all seven indicators, and projecting their likely paths over the next couple of quarters, continues to point to a growing probability the U.S. will enter a recession sometime late in the first half or in Q3 of 2023, in our view. However, absent some notable weakness in the employment data in the coming months, the start date could easily move out later into the second half of the year.

Research resources

This document is produced by the Global Portfolio Advisory Committee within RBC Wealth Management's Portfolio Advisory Group. The RBC Wealth Management Portfolio Advisory Group provides support related to asset allocation and portfolio construction for the firm's investment advisors / financial advisors who are engaged in assembling portfolios incorporating individual marketable securities.

The Global Portfolio Advisory Committee leverages the broad market outlook as developed by the RBC Investment

Strategy Committee (RISC), providing additional tactical and thematic support utilizing research from the RISC, RBC Capital Markets, and third-party resources.

The RISC consists of senior investment professionals drawn from individual, client-focused business units within RBC, including the Portfolio Advisory Group. The RISC builds a broad global investment outlook and develops specific guidelines that can be used to manage portfolios. The RISC is chaired by Daniel Chornous, CFA, Chief Investment Officer of RBC Global Asset Management Inc.

Global Portfolio Advisory Committee members

Jim Allworth – Co-chair Investment Strategist, RBC Dominion Securities Inc.

Kelly Bogdanova – Co-chair Portfolio Analyst, RBC Wealth Management Portfolio Advisory Group U.S., RBC Capital Markets, LLC

Frédérique Carrier – Co-chair Managing Director & Head of Investment Strategies, RBC Europe Limited

Mark Bayko, CFA – Head, Portfolio Management, RBC Dominion Securities Inc.

Rufaro Chiriseri, CFA – Head of Fixed Income – British Isles, RBC Europe Limited

Janet Engels – Head, Portfolio Advisory Group U.S., RBC Wealth Management, RBC Capital Markets, LLC

Thomas Garretson, CFA – Fixed Income Senior Portfolio Strategist, RBC Wealth Management Portfolio Advisory Group, RBC Capital Markets, LLC **Ryan Harder, CFA –** Fixed Income Portfolio Advisor, Portfolio Advisory Group, RBC Dominion Securities Inc.

Patrick McAllister, CFA – Manager, Equity Advisory & Portfolio Management, Portfolio Advisory Group, RBC Dominion Securities Inc.

Alan Robinson – Portfolio Analyst, RBC Wealth Management Portfolio Advisory Group – U.S. Equities, RBC Capital Markets, LLC

Michael Schuette, CFA – Multi-Asset Portfolio Strategist, RBC Wealth Management Portfolio Advisory Group – U.S., RBC Capital Markets, LLC

David Storm, CFA, CAIA – Chief Investment Officer, BI & Asia, RBC Europe Limited

Yuh Harn Tan – Head of Discretionary Portfolio Management & UHNW Solutions, Royal Bank of Canada, Singapore Branch

Joseph Wu, CFA – Portfolio Manager, Multi-Asset Strategy, RBC Dominion Securities Inc.

Required disclosures

Analyst Certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

Important Disclosures

In the U.S., RBC Wealth Management operates as a division of RBC Capital Markets, LLC. In Canada, RBC Wealth Management includes, without limitation, RBC Dominion Securities Inc., which is a foreign affiliate of RBC Capital Markets. This report has been prepared by RBC Capital Markets which is an indirect wholly-owned subsidiary of the Royal Bank of Canada and, as such, is a related issuer of Royal Bank of Canada.

Non-U.S. Analyst Disclosure

One or more research analysts involved in the preparation of this report (i) may not be registered/qualified as research analysts with the NYSE and/or FINRA and (ii) may not be associated persons of the RBC Wealth Management and therefore may not be subject to FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

In the event that this is a compendium report (covers six or more companies), RBC Wealth Management may choose to provide important disclosure information by reference. To access current disclosures, clients should refer to <u>https://www.rbccm.com/GLDisclosure/PublicWeb/</u> <u>DisclosureLookup.aspx?EntityID=2</u> to view disclosures regarding RBC Wealth Management and its affiliated firms. Such information is also available upon request to RBC Wealth Management Publishing, 250 Nicollet Mall, Suite 1800, Minneapolis, MN 55401-1931.

References to a Recommended List in the recommendation history chart may include one or more recommended lists or model portfolios maintained by RBC Wealth Management or one of its affiliates. RBC Wealth Management recommended lists include the Guided Portfolio: Prime Income (RL 6), the Guided Portfolio: Dividend Growth (RL 8), the Guided Portfolio: ADR (RL 10), and the Guided Portfolio: All Cap Growth (RL 12). RBC Capital Markets recommended lists include the Strategy Focus List and the Fundamental Equity Weightings (FEW) portfolios. The abbreviation 'RL On' means the date a security was placed on a Recommended List. The abbreviation 'RL Off' means the date a security was removed from a Recommended List.

RBC Capital Markets Distribution of Ratings

For the purpose of ratings distributions, regulatory rules require member firms to assign ratings to one of three rating categories – Buy, Hold/Neutral, or Sell – regardless of a firm's own rating categories. Although RBC Capital Markets' ratings of Outperform (O), Sector Perform (SP), and Underperform (U) most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because RBC Capital Markets' ratings are determined on a relative basis.

Distribution of ratings – RBC Capital Markets Equity Research

As of March 31, 2023

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Outperform]	824	56.05	236	28.64
Hold [Sector Perform]	591	40.20	132	22.34
Sell [Underperform]	55	3.74	4	7.27

Explanation of RBC Capital Markets Equity Rating System An analyst's "sector" is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector average.

Outperform (O): Expected to materially outperform sector average over 12 months. Sector Perform (SP): Returns expected to be in line with sector average over 12 months. Underperform (U): Returns expected to be materially below sector average over 12 months. Restricted (R): RBC policy precludes certain types of communications, including an investment recommendation, when RBC is acting as an advisor in certain merger or other strategic transactions and in certain other circumstances. Not Rated (NR): The rating, price targets and estimates have been removed due to applicable legal, regulatory or policy constraints which may include when RBC Capital Markets is acting in an advisory capacity involving the company.

As of March 31, 2020, RBC Capital Markets discontinued its Top Pick rating. Top Pick rated securities represented an analyst's best idea in the sector; expected to provide significant absolute returns over 12 months with a favorable risk-reward ratio. Top Pick rated securities have been reassigned to our Outperform rated securities category, which are securities expected to materially outperform sector average over 12 months.

Risk Rating: The Speculative risk rating reflects a security's lower level of financial or operating predictability, illiquid share trading volumes, high balance sheet leverage, or limited operating history that result in a higher expectation of financial and/or stock price volatility. Valuation and Risks to Rating and Price Target

When RBC Capital Markets assigns a value to a company in a research report, FINRA Rules and NYSE Rules (as incorporated into the FINRA Rulebook) require that the basis for the valuation and the impediments to obtaining that valuation be described. Where applicable, this information is included in the text of our research in the sections entitled "Valuation" and "Risks to Rating and Price Target", respectively.

The analyst(s) responsible for preparing this research report have received (or will receive) compensation that is based upon various factors, including total revenues of RBC Capital Markets, and its affiliates, a portion of which are or have been generated by investment banking activities of RBC Capital Markets and its affiliates.

Other Disclosures

Prepared with the assistance of our national research sources. RBC Wealth Management prepared this report and takes sole responsibility for its content and distribution. The content may have been based, at least in part, on material provided by our third-party correspondent research services. Our third-party correspondent has given RBC Wealth Management general permission to use its research reports as source materials, but has not reviewed or approved this report, nor has it been informed of its publication. Our third-party correspondent may from time to time have long or short positions in, effect transactions in, and make markets in securities referred to herein. Our third-party correspondent may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any company mentioned in this report.

RBC Wealth Management endeavors to make all reasonable efforts to provide research simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. In certain investment advisory accounts, RBC Wealth Management or a designated third party will act as overlay manager for our clients and will initiate transactions in the securities referenced herein for those accounts upon receipt of this report. These transactions may occur before or after your receipt of this report and may have a shortterm impact on the market price of the securities in which transactions occur. RBC Wealth Management research is posted to our proprietary Web sites to ensure eligible clients receive coverage initiations and changes in rating, targets, and opinions in a timely manner. Additional distribution may be done by sales personnel via e-mail, fax, or regular mail. Clients may also receive our research via third-party vendors. Please contact your RBC Wealth Management Financial Advisor for more information regarding RBC Wealth Management research.

Conflicts Disclosure: RBC Wealth Management is registered with the Securities and Exchange Commission as a broker/dealer and an investment adviser, offering both brokerage and investment advisory services. RBC Wealth Management's Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on our website at <u>https://www.rbccm.com/GLDisclosure/PublicWeb/</u><u>DisclosureLookup.aspx?EntityID=2</u>. Conflicts of interests related to our investment advisory business can be found in Part 2A Appendix 1 of the Firm's Form ADV or the RBC Advisory Programs Disclosure Document. Copies of any of these documents are available upon request through your Financial Advisor. We reserve the right to amend or supplement this policy, Part 2A Appendix 1 of the Form ADV, or the RBC Advisory Programs Disclosure Document at any time.

The authors are employed by one of the following entities: RBC Wealth Management USA, a division of RBC Capital Markets, LLC, a securities broker-dealer with principal offices located in Minnesota and New York, USA; RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Toronto, Canada; RBC Investment Services (Asia) Limited, a subsidiary of RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Hong Kong, China; Royal Bank of Canada, Singapore Branch, a licensed wholesale bank with its principal office located in Singapore; and RBC Europe Limited, a licensed bank with principal offices located in London, United Kingdom.

Third-party Disclaimers

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard & Poor's Financial Services LLC ("S&P") and is licensed for use by RBC. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

Disclaimer

The information contained in this report has been compiled by RBC Wealth Management, a division of RBC Capital Markets, LLC, from sources believed to be reliable, but no representation or warranty, express or implied, is made by Royal Bank of Canada, RBC Wealth Management, its affiliates or any other person as to its accuracy, completeness or correctness. All opinions and estimates contained in this report constitute RBC Wealth Management's judgment as of the date of this report, are subject to change without notice and are provided in good faith but without legal responsibility. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Every province in Canada, state in the U.S., and most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as the process for doing so. As a result, the securities discussed in this report may not be eligible for sale in some jurisdictions. This report is not, and under no circumstances should be construed as, a solicitation to act as securities broker or dealer in any jurisdiction by any person or company that is not

legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. Nothing in this report constitutes legal, accounting or tax advice or individually tailored investment advice. This material is prepared for general circulation to clients, including clients who are affiliates of Royal Bank of Canada, and does not have regard to the particular circumstances or needs of any specific person who may read it. The investments or services contained in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about the suitability of such investments or services. To the full extent permitted by law neither Royal Bank of Canada nor any of its affiliates, nor any other person, accepts any liability whatsoever for any direct, indirect or consequential loss arising from, or in connection with, any use of this report or the information contained herein. No matter contained in this document may be reproduced or copied by any means without the prior written consent of Royal Bank of Canada in each instance. In the U.S., RBC Wealth Management operates as a division of RBC Capital Markets, LLC. In Canada, RBC Wealth Management includes, without limitation, RBC Dominion Securities Inc., which is a foreign affiliate of RBC Capital Markets, LLC. This report has been prepared by RBC Capital Markets, LLC. Additional information is available upon request.

To U.S. Residents: This publication has been approved by RBC Capital Markets, LLC, Member NYSE/FINRA/SIPC, which is a U.S. registered broker-dealer and which accepts responsibility for this report and its dissemination in the United States. RBC Capital Markets, LLC, is an indirect wholly-owned subsidiary of the Royal Bank of Canada and, as such, is a related issuer of Royal Bank of Canada. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets, LLC. International investing involves risks not typically associated with U.S. investing, including currency fluctuation, foreign taxation, political instability and different accounting standards.

To Canadian Residents: This publication has been approved by RBC Dominion Securities Inc. RBC Dominion Securities Inc.* and Royal Bank of Canada are separate corporate entities which are affiliated. * Member Canadian Investor Protection Fund. ® Registered trademark of Royal Bank of Canada. Used under license. RBC Wealth Management is a registered trademark of Royal Bank of Canada. Used under license. **RBC Wealth Management (British Isles):** This publication is distributed by RBC Europe Limited and Royal Bank of Canada (Channel Islands) Limited. RBC Europe Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority (FCA registration number: 124543). Registered office: 100 Bishopsgate, London, EC2N 4AA, UK. Royal Bank of Canada (Channel Islands) Limited is regulated by the Jersey Financial Services Commission in the conduct of investment business in Jersey. Registered office: Gaspé House, 66-72 Esplanade, St Helier, Jersey JE2 3QT, Channel Islands.

To Hong Kong Residents: This publication is distributed in Hong Kong by Royal Bank of Canada, Hong Kong Branch which is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission ('SFC'), and RBC Investment Services (Asia) Limited, which is regulated by the SFC.

To Singapore Residents: This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, a registered entity licensed by the Monetary Authority of Singapore. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. You are advised to seek independent advice from a financial adviser before purchasing any product. If you do not obtain independent advice, you should consider whether the product is suitable for you. Past performance is not indicative of future performance. If you have any questions related to this publication, please contact the Royal Bank of Canada, Singapore Branch. Royal Bank of Canada, Singapore Branch accepts responsibility for this report and its dissemination in Singapore.

© 2023 RBC Capital Markets, LLC – Member NYSE/FINRA/SIPC © 2023 RBC Dominion Securities Inc. – Member Canadian Investor Protection Fund © 2023 RBC Europe Limited © 2023 Royal Bank of Canada All rights reserved RBC1524

