



Policy for Managing Conflicts of Interest in Relation to Investment Research

Introduction

This policy applies to investment research published by the global Equity Research and Fixed Income Research departments of RBC Capital Markets and its member companies including the U.S. Equities Portfolio Advisory Group (“PAG”) division of RBC Wealth Management¹, (“RBC,” “CM,” “RBCCM,” “we” or “us”). In the UK the policy applies to “Investment Research” and “Investment Recommendations relating to Investment Research” as defined by the UK Financial Conduct Authority.

We reserve the right to amend or supplement this policy at any time. This policy is a summary of the principal provisions of more detailed internal RBC policies on research applicable to RBC Capital Markets as a whole and to specific affiliated business units.

In this policy, we use the terms “Research Analyst” and “Analyst” interchangeably to describe research analysts who publish research reports. We use the term Research Management to describe the senior management teams of the respective research departments.

¹ RBC Wealth Management is a division of RBC Capital Markets, LLC, 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 and part of the RBC Financial Group. The research produced by PAG at RBC Wealth Management is intended primarily for the benefit of retail clients.

1. Identification and disclosure of actual, apparent and potential conflicts

Our policies and internal procedures are designed to assist us in identifying actual, apparent and potential conflicts of interest, or the appearance of conflicts of interest, that might affect or raise questions about the impartiality of our research.

We provide training for Research Analysts and other RBCCM personnel, including RBC Wealth Management personnel, with whom Analysts interact, on the identification of potential conflicts. Research Management and Compliance provide assistance and guidance to RBCCM and RBC Wealth Management personnel as issues arise.

Compliance monitors the application of RBCCM's and RBC Wealth Management's policies regarding the publication of research in the period before, during and after investment banking transactions, as described further in "*Timing and content of research*". We also have automated systems that facilitate the required disclosures in research reports of interests and activities of RBCCM which may appear to represent a conflict of interest (see "*Disclosure of interests*").

The primary Analyst responsible for a research report is required to ensure that the views expressed in each research report accurately reflect his or her personal views (see "*Inducements and inappropriate influences - Certification on each research report*").

2. Supervision and remuneration of Research Analysts

Supervision and reporting lines: Analysts who publish research reports are supervised by, and report to, Research Management. Research Analysts do not report to, and are not supervised by, any investment banking staff or personnel from RBC Wealth Management whose interests or functions may conflict with those of the Research Analysts. The evaluation and appraisal of Research Analysts for purposes of career advancement, remuneration and promotion is structured so that non-research personnel do not exert inappropriate influence over Analysts.

Remuneration: The remuneration of Research Analysts is determined on the basis of a number of factors, including various performance factors, seniority, compensation level from the prior year(s) and market factors. Analysts' remuneration, however, may not be directly linked to specific investment banking transactions or investment banking groups, but will in part reflect the overall profitability of RBCCM and/or RBC Wealth Management as a whole, including

the profitability of Global Investment Banking. We do not permit investment banking personnel to participate in RBCCM's or RBC Wealth Management's evaluations of Research Analysts.

3. Activities of Analysts

We restrict Research Analysts from performing roles which could prejudice, or appear to prejudice, the independence of their research.

Pitches: Research Analysts are not permitted to participate in sales pitches for investment banking mandates. Pitch materials may not contain the promise of favourable research coverage.

No promotion of issuers' transactions: Research Analysts may not be involved in promotional or marketing activities in connection with an investment banking transaction of an issuer. For this reason, Analysts are not permitted to attend "roadshow" presentations by issuers relating to offerings of securities or any other investment banking transaction.

In connection with a securities offering or other investment banking transaction and during the course of such an offering or transaction, our policies permit Analysts to meet and speak with potential investors, at meetings and in conversations not involving the issuer or investment banking colleagues, for purposes of investor education and information.

Analysts' personal dealings: RBCCM has personal dealing policies and procedures in place which are applicable to the Research Department in order to avoid perceived or actual conflicts of interest. Research Employees shall not trade in any security of any company about which they are in possession of confidential, non-public information. Further, in order to eliminate any perceived conflict of interest, Research Analysts² shall not hold or trade the securities of any company that they cover or anticipate covering, or any company in the coverage sector that the Research Analyst covers. Research Employees are also required to seek pre-approval for personal trading. Approval decisions are at the discretion of Research Management and/or Compliance, as appropriate.

Outside Business Activities: RBCCM has an Outside Business Activities Policy designed to mitigate any risks or potential conflicts of interest associated with any Outside Business Activities that Research Analysts may undertake. Any outside business activities must not conflict with their role at RBCCM and require disclosure or pre-approval, as appropriate.

4. Inducements and inappropriate influences

² Household Members (as defined in our internal Research policies) are also included in this restriction.

We prohibit Research Analysts from soliciting or receiving any inducement in respect of their publication of research. RBCCM's internal policies and procedures are designed to ensure that whenever RBCCM pays or accepts any fee or commission, or provides or receives any inducement, it acts honestly, fairly, professionally, in accordance with the best interests of the Client and appropriately manages any resulting conflicts of interest.

Remuneration and other benefits: Our procedures prohibit Analysts from accepting any remuneration or other benefit from an issuer or any other party in respect of the publication of research and from offering or accepting any inducement (including the selective disclosure by an issuer of material information not generally available) for the publication of favourable research. These restrictions do not preclude the acceptance of reasonable hospitality in accordance with RBCCM's general policies on gifts and entertainment.

Inappropriate influences and information barriers: We have implemented policies and procedures, where appropriate, to regulate communications between our Research Analysts and investment banking personnel.

We restrict certain communications between Research Analysts and RBC Wealth Management as well as investment banking personnel within RBCCM which might be perceived to result in inappropriate influence on Analysts' views.

Equity Research Analysts have office space separate from that of investment bankers. There are also security restrictions on access to the equity Analysts' areas by non-Analysts and to investment banking areas by Analysts. In addition:

- Investment bankers, salespeople and traders are prohibited from attempting to influence the timing or content of an Analyst's research report, and Research Analysts are prohibited from disclosing to any other business area of RBCCM including RBC Wealth Management (other than Research Management, Compliance or the Law Group) the timing or content of a research report prior to its publication (see "*Timing and content of research*").
- Analysts may not be provided with material or confidential non-public information regarding an issuer or investment, unless the Analyst is brought "over the wall" (variously known as an "information barrier" or "Chinese wall") in accordance with our procedures. This requires the prior consent of Research Management and a record to be made by Compliance, and potentially results in restrictions on the Analyst's activities until the relevant non-public information has become public or stale. Investment bankers are also prohibited from inappropriately

pressuring an Analyst to initiate coverage of an issuer or security (see "*Coverage decisions*").

- Conversations between investment bankers and equity Research Analysts may require pre-approval by Research Management.

Coverage decisions: Decisions to initiate, resume, suspend or discontinue research coverage of an issuer or investment are made by Research Management in conjunction with the Research Analyst concerned. Research Management, is permitted to take into account input with respect to research coverage from senior management staff of other business areas, including investment banking and sales and trading.

Certification on each research report: The primary Analyst responsible for a research report on a specific issuer or issuers of securities is required to certify, at the time of publication, that the views expressed in the report accurately reflect his or her personal views about the subject securities, instruments or issuers, and that no part of his or her compensation was, is or will be directly or indirectly related to the specific views or recommendations contained therein. This certification can be found on each such research report.

5. Review and comment on research

Our policies are designed to ensure that parties with interests which may potentially conflict with those of recipients of research are not able to review or comment on research in a manner which might affect the impartiality of the research.

Review of research: Prior to publication, all research reports relating to securities are reviewed by a Supervisory Analyst, Research Management or their designate. The purpose of these reviews is to confirm compliance with RBCCM's and RBC Wealth Management's editorial guidelines and regulatory requirements, including the requirement that research be clear, fair and not misleading. All such reports that contain any discussion of a company or other entity in relation to which we have an investment banking mandate (which would not necessarily be limited to the issuer RBCCM represents in that mandate) may also be reviewed by Compliance to monitor compliance with any legal or policy restrictions on timing or content as described in "*Timing and content of research*".

Our policies do not permit subject companies to review research reports prior to publication. However, subject companies may review factual statements excerpted from a research report prior to publication where necessary to verify the factual accuracy of the report, and provided that all appropriate approvals have been obtained from Research Management and Compliance and certain other procedures followed.

Complaints: Any complaints concerning the content of research reports should be referred to, and are dealt with by, Research Management, and where appropriate in conjunction with Compliance in accordance with RBCCM's and RBC Wealth Management's complaints handling procedures, and not by investment banking personnel.

6. Timing and content of research

Our policies are designed to ensure that decisions on the timing and content of research are not made, or inappropriately influenced, by persons with interests conflicting with those of users of research and that new research and other material statements of a Research Analyst's views are not disclosed selectively before being made generally available.

The timing of publication of a research report is determined primarily by the Analyst on the basis of events affecting the issuer or investment concerned, perceived investment opportunities for research clients and developments in the Analyst's opinion. Investment bankers and sales and trading personnel have no control over, or input into, decisions on timing of publication of individual research reports.

RBCCM has policies that may restrict the publication of research or the inclusion of opinions and/or recommendations in research, relating to the issuer or its related parties, at certain times when RBCCM is involved in investment banking transactions.

In relation to offerings of securities, we follow the customary practice, and in some jurisdictions we are required by law, to impose a "quiet period" or "blackout period" before and/or after the offering.

Dissemination of research and updated views: Research reports are made available to clients through the RBC global research portal.. Any material update of a Research Analyst's view, for example an immediate response to issuer news in advance of a full research report, is made available to clients through the portal. Our policies do not allow research reports to be made available to non-research personnel of RBCCM or RBC Wealth Management, including our traders, before they are made available to our clients.

Updating: With respect to investment recommendations on equity securities covered by an Analyst, it is RBCCM's policy that the Analyst revise and publish financial estimates, valuations, price targets and recommendations for all companies covered at least quarterly and as soon as possible after all relevant events. With respect to other research reports, RBCCM does not undertake to

update or revise any such research or recommendations in respect of securities or issuers either periodically or in response to issuer, industry, economic or other events, but may do so where practicable.

Disclosure of interests: RBCCM discloses in its research reports, in accordance with applicable law and regulation, particulars of interests, including those of RBCCM and the Analyst, that are or may be material in the context of the relevant report.

Important Notes

This policy is supplemented by more detailed policies and procedures adopted by RBCCM. Variations and exceptions to this policy may be approved by Research Management and Compliance in individual cases, with a view to promoting the objectives of this policy in the particular circumstances.

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