



Policy for Managing Conflicts of Interest in Relation to Investment Research

Introduction

This policy applies to investment research published by the Portfolio Advisory Group – U.S. Equities (“PAG”) department of RBC Wealth Management, a division of RBC Capital Markets, LLC (“RBC Wealth Management,” “we” or “us”). In the U.K. the policy applies to “Investment Research” and “Research Recommendations” as defined by the U.K. Financial Services Authority. 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.

The current version of this policy is available on our website at:

<https://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2>. 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 the RBC Financial Group as a whole and to specific 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 team of PAG.

For the Investment Research and Research Recommendations produced or disseminated by Royal Bank of Canada Europe Limited in the United Kingdom this policy represents the conflict management policy required by its regulator, the Financial Services Authority.

Note on Applicable Regulation

Our policies comply with laws and regulations applicable to our research.

Although RBC was not a party to the equity research settlement of certain U.S. securities firms with U.S. federal and state regulators in April 2003 (the “Research Settlement”), we have voluntarily applied many of the requirements of the Research Settlement to our research.

1. Identification and Disclosure of Possible Conflicts

Our policies and internal procedures are designed to assist us in identifying possible 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 regarding the identification of potential conflicts. Research Management and Compliance provide assistance and guidance to RBC Wealth Management personnel as issues arise. Individual RBC Wealth Management personnel are responsible for raising identified conflicts or potential conflicts with their supervisors to ensure that all conflict questions are referred to and considered at the appropriate level within RBC Wealth Management.

Compliance periodically monitors the application of RBC Wealth Management’s policy 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 RBC Wealth Management that may appear to represent a conflict of interest (see “*Disclosure of interests*”).

The primary Analyst or Analysts responsible for a research report are 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*”).

RBC Wealth Management’s usual disciplinary procedures apply in case of breaches of the policies referred to herein. Failure of RBC Wealth Management personnel to adhere to the requirements of our policies may result in a range of sanctions, up to and including termination of employment.

2. Supervision and Remuneration of Research Analysts

Research Analysts are not supervised by personnel from other areas of RBC Wealth Management (in particular investment banking personnel) 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.

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 personnel. Senior Research Management personnel report either directly to RBC Wealth Management management or to the most senior management level in the related business.

Evaluation and remuneration: The remuneration of Research Analysts is determined on the basis of a number of factors, including various performance factors such as productivity, quality of research and stock-picking ability. 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 RBC Wealth Management and Royal Bank of Canada as a whole, which includes the profitability of Global Investment Banking. We do not permit investment banking personnel to participate in RBC Wealth Management’s evaluation 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 favorable 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. Analysts may, however, observe roadshows without asking questions by video conference or telephone, on a listen only basis, in order to help ensure that they have access to the same information as their investor clients.

Analysts are permitted to attend ordinary course investor presentations by issuers, including those that are corporate clients of RBC Wealth Management or its affiliated firms, that do not relate to offerings of securities or other investment banking transactions, provided that (except in the case of widely-attended conferences mentioned below) investment banking personnel are not present.

Restrictions on three-way meetings: Participation in a three-way meeting between an Analyst, a subject company and investment banking personnel may occur only with Research Management approval and only for the purposes of fact finding, due diligence and verification, or certain other purposes.

Widely-attended conferences: Analysts are permitted to attend and speak at widely-attended conferences at which investment banking colleagues and clients, among others, may also be present. These widely-attended conferences may include some investor presentations by corporate clients of RBC Wealth Management or its affiliated firms.

Other permitted activities: With the prior approval of Research Management and RBC Wealth Management's Legal/Compliance department, Analysts may be consulted by investment banking personnel on matters such as the merits of a proposed transaction, a potential candidate for a proposed transaction, or market and industry trends, conditions and developments or on companies or industries generally. In addition, Analysts may communicate with capital markets (but not investment banking generally) about the structuring and pricing of an investment banking transaction and may provide capital markets (but not investment banking generally) with information obtained or derived from investor clients relevant to the pricing and structuring of an investment banking transaction. Analysts may also carry out preliminary due diligence and vetting of issuers which may be prospective subjects of research or prospective investment banking clients, or both, and may meet issuers at that time for this purpose (or otherwise upon the issuer's request) provided investment bankers are not present.

Analysts may not, however, 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 Legal/Compliance, and potentially results in restrictions on the Analyst's activities until the relevant non-public information has become public or stale.

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. However, Analysts may not actively market an investment banking transaction, and investment banking personnel are prohibited from directing Analysts to engage in such marketing efforts.

Analysts' personal dealings: Analysts and members of an Analyst's household are prohibited from trading in securities or related derivatives of any issuer that they cover, anticipate covering or that is in the Analyst's coverage sector, if such a sector can be identified. If such a sector can be identified, the prohibition on personal account trading would therefore apply not only to all the issuers covered by the Analyst, but also to similar issuers. Exceptions may be made with the prior approval of Research Management and Compliance in special circumstances such as for disposal of (i) positions already held under a previous policy, when joining RBC Wealth Management or when initiating coverage and (ii) positions obtained as a result of a merger, fund distribution or other involuntary acquisition. Where Research Management and Compliance have granted an Analyst permission to hold securities of an issuer they cover, Analysts are required to disclose their interests in the securities of the issuer in research reports relating to such issuer and are permitted to trade only during prescribed window periods away from the time of publication of a research report. Any trades that Analysts make in such an issuer's securities must be in line with their most recently published recommendation(s), if any. Analysts are also required to disclose all other material personal conflicts relevant to the issuers or investments that are the subject of their research.

An Analyst is prohibited from covering an issuer if the Analyst or an Analyst's household member serves as an officer, director or employee of the issuer or serves on an advisory committee of the issuer. Further, RBC Wealth Management will not issue a research report where the Supervisory Analyst approving the report serves as an officer, director or employee of the issuer or serves on an advisory committee of the issuer.

Where personal account trading is permitted, within the rules described above, Analysts are required to comply with RBC Wealth Management's rules and procedures on personal account dealing, which include requirements for dealings to be conducted through an account with an affiliate of RBC Capital Markets or other permitted accounts held outside RBC Wealth Management and to be pre-cleared with Research Management. Pre-clearance is not required for certain transactions, including transactions in open-ended mutual funds, transactions in U.S. Treasury securities, transactions in money market funds, or for permitted trading in connection with an approved investment advisory or discretionary trading relationship where the Analyst has ceded all investment discretion to an investment advisor or financial adviser.

4. Inducements and Inappropriate Influences

We prohibit Research Analysts from soliciting or receiving any inducement in respect of their publication of research, and we restrict certain communications between Research Analysts and investment banking personnel within RBC Wealth Management or its affiliated firms that might be perceived to result in inappropriate influence on Analysts' views.

Remuneration and other benefits: Our procedures prohibit Analysts from accepting any remuneration or other benefit from an issuer or any other party with respect to 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 favorable research. These restrictions do not preclude the acceptance of reasonable hospitality in accordance with RBC Wealth Management's general policies on gifts and entertainment.

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

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 RBC Wealth Management (other than Research Management, Legal or Compliance) the timing or content of a research report prior to its publication (see "*Timing and content of research*").
- Investment bankers are prohibited from providing Analysts with material or confidential non-public information regarding an issuer or investment, unless the Analyst is brought "over the wall" in accordance with our procedures (see "*Other permitted activities*").
- Investment bankers are also prohibited from asking an Analyst to initiate coverage of an issuer or investment (see "*Coverage decisions*").

We provide compliance notices and training to the relevant personnel on these policies. All conversations between investment bankers and equity Research Analysts must be pre-approved by Research Management and/or RBC Wealth Management's Legal/Compliance department.

Coverage decisions: PAG's policy is that decisions with respect to initiations, continuations and terminations of equity research are made independently, with due consideration to the interests of institutional and retail investors, and RBC Wealth Management's franchise and strategy, subject to available resources and expertise.

Certification on each research report: The primary Analyst or Analysts responsible for a research report on a specific issuer or issuers of securities are required to certify 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 that may potentially conflict with those of recipients of research are not able to review or comment on research in a manner that 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 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

RBC Capital Markets or its affiliated firms represent 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.*” The Supervisory Analyst/editor/Research Management is primarily responsible for ensuring that the appropriate disclosures are included in the research reports.

Our policies permit non-research personnel to review a research report prior to publication only where necessary to verify the factual accuracy of the report; provided that such report does not contain any summary/opinion section, rating, price target, or valuation model; and provided further that all appropriate approvals have been obtained from Legal or Compliance and certain other procedures followed.

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 Legal or 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/or Legal/Compliance in accordance with RBC Wealth Management’s complaint handling procedures. Investment banking personnel should not receive or deal with complaints.

Retaliation policy: Neither RBC Wealth Management nor investment banking personnel may retaliate or threaten to retaliate against any Research Analyst for adversely negative or otherwise unfavorable research that may adversely affect RBC Capital Markets or its affiliated firms’ present or potential investment banking relationships.

Further, Research Analysts may not threaten any company with the cessation of research or any adverse change to such research in retaliation for the failure of the issuer to award the Firm with a specific investment banking assignment, role or economics.

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.

Timing and content of research: 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.

RBC Wealth Management 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 RBC Wealth Management or its affiliated firms are involved in investment banking transactions. In the case of a merger or acquisition, the restriction may be applied both to bidder and target, regardless of which we are advising. The nature, timing and length of the restriction will depend on the nature of the transaction.

For example, we generally restrict the publication of research on an issuer after the announcement of a material merger, acquisition or restructuring in which we are involved. Similarly during the pendency of the deal, we may limit our Analysts' ability to publish opinions or recommendations.

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 a number of established distribution channels (including via e-mail and web-based portals). 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 similar channels. Our policies do not allow research reports to be made available to

non-research personnel of RBC Wealth Management, including our traders, before they are made available to our clients.

Updating: With respect to research recommendations on equity securities covered by an Analyst, it is RBC Wealth Management'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, RBC Wealth Management 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: RBC Wealth Management discloses in its research reports, in accordance with applicable law and regulation, particulars of interests, including those of RBC Wealth Management and the Analyst, that are or may be material in the context of the relevant report.

Important Notes

This policy is not intended to create third party rights or duties that would not already exist if the policy had not been made available, or to constitute or form part of any contract between us and any client or customer of RBC Wealth Management (or any other person).

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

References to investment banking are intended to include capital markets and corporate banking personnel involved in an advisory capacity to issuers of securities in return for remuneration, other than advice with respect to trading and related services.