

2020

FREDA Data Branch

STRATEGY

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Executive Summary

This document sets out a long-term vision for the creation of a new Data Branch (Branch) within the Finance Real Estate and Data Analytics Unit (FREDA) of the Policy and Legislation Division (PLD) and a phased approach to reaching that vision.

The Ministry has access to significant amounts of data that are currently collected for tax administration purposes. This data is a valuable resource that could be used to support evidence-based policy analysis within PLD, as well as supporting the policy analysis of other areas of Finance, and eventually external clients.

Historically, tax policy analysis within PLD has had meagre evidence-based foundations, largely because of limited access to the appropriate data and to the statistical expertise needed to analyse what data was available. However, recent experiences with the speculation tax and the housing crisis and a focus on government's emerging priorities related to anti-money laundering and GBA+ analysis, the need for increased evidence-based analytical capacity in PLD has become critical.

The long-term vision for the Branch is a relatively small cohort of staff with economics and data science expertise who have access to a repository of data so that they can respond to urgent requests for analysis from clients while also undertaking longer term projects in support of broader government objectives such as anti-money laundering and the new fiscal relationship with indigenous governments. The staff in the Branch will not be policy analysts but will be versed in policy issues so that they can support policy analysts and other clients effectively.

This vision will be achieved in two phases. The first phase will focus on developing the capacity in the Branch including creating a repository of reliable data, ensuring that the data are properly documented and stored and developing the culture and technical capacity to produce information for evidence-informed policy.

The initial priorities for work of the Branch will be to provide data and analysis in support of work in PLD including tax policy analysis, intergovernmental (local and indigenous) fiscal analysis and anti-money laundering policy. The Branch will also provide information more broadly within the Ministry, to Revenue Division and to the economic forecasting group in Treasury Board Staff.

Once these initiatives are met, the second phase expand the mandate of the Branch to provide data and analysis for external clients. Clients for information related to money laundering generated by the Branch could include other ministries, regulators, tax enforcement officials, federal government agencies and, potentially law enforcement. The Branch's analysis related to the housing market and demographic trends may also

be useful for other ministries including the Ministry of Municipal Affairs and Housing and the Ministry of Social Development and Poverty Reduction.

The development of the Branch will require consultation with the Information Management Branch in Finance and with data experts at Citizens' Services to ensure that its data management processes are consistent with best practices and policy.

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Introduction

The Policy and Legislation Division (PLD) has historically had limited capacity to undertake data analysis in support of its activities. Recent experience with the housing crisis, the introduction of the speculation tax, the government's poverty reduction strategy and the government's recent focus on anti-money laundering and on new fiscal relationships with indigenous communities, have pressed the need to improve this capacity to a critical point. The FREDA Data Branch (Branch) has been created within PLD to begin to address this need.

The expanded use of Ministry data holdings to support policy analysis requires a realignment in the Ministry's approach towards much of its data with a recognition that Ministry's data holdings are a valuable resource that can be used to unlock unique policy insights. The Branch will be able to unlock these insights and promote data-informed decision making within the Ministry.

This document sets out the argument for expanding data analytical capacity within PLD together with a description of the eventual state of the Branch and a strategy to reach that state.

Context

The existing system for obtaining data in PLD to support tax policy analysis has several shortcomings, which together with new demands for policy work, require revisiting the division's capacity for data analysis. This immediate need coincides with a broader ministry-wide initiative to consolidate and modernize the Ministry's data infrastructure.

PLD's use of data

Historically, tax data has been used mainly by the Revenue Division of Finance to administer taxes. This use has been the priority in the development of many of the Ministry's information infrastructure.

Until recently, the only data analytics within PLD has been undertaken by analysts in the tax policy branch to assess the impacts of potential tax policy changes. The data availability in PLD was limited to income tax data. Analysis related to other taxes required tax policy branch staff to request data from staff in Revenue Division who, in

turn, would query a database for simple requests, or for more complex requests, would produce a service request to a contractor to extract information. Tax policy analysts would then blend this tax data with other data sets, such as demographic data from BCStats or carbon emissions data from Natural Resources Canada, to carry out analysis of proposed policy changes.

These arrangements have had several significant shortcomings:

- They are inefficient. The querying back and forth between tax policy analysts, Revenue Division staff, and the database is time consuming and especially problematic when tax policy analysis is required under tight timelines, which is typically the case.
- The scope of potential analysis has been limited.
 - Tax data is often only kept for seven years to coincide with the audit period for taxes. Longer-term longitudinal data could provide valuable insights into the impact of tax or other policy changes over time.
 - Some data that is needed for policy analysis is not collected (even if it is a statutory requirement). For example, property transfer tax forms are often submitted and accepted with blank fields, and some fields that are completed are not entered into the administrative data system.
 - As policy experts, tax policy analysts do not have the statistical and data science skills to manage the data efficiently.
- They lead to low-quality analysis. Because the purpose of much of the data is program administration, it is often not documented in a way that is useful for policy analysis. It has other characteristics that also present several challenges for policy analysis.
 - *It is big data:* Administrative tax records are very large, often too large to open in spreadsheets like Excel. In these cases, expertise in data science is necessary simply to access the data.
 - *It has complex structures:* Administrative records often have a very complex structure and require extensive cleaning and manipulation before they can be stored in a simplified format that is suitable for analysis.

- *It is incomplete:* In general, the government collects the minimum information required to administer a program. In many cases, a proper analysis of a policy requires blending administrative data with other data sources, particularly demographic and geographic information. This blending also requires considerable expertise to create reliable and accurate data sets.

Without knowing how administrative data is generated and if the data provided is appropriate for the required analysis, tax policy analysts are often left using a “best guess” approach to quantifying the potential impacts of policy changes.

These factors combine to create a significant deficit in access to and use of data for policy analysis in PLD.

Emerging capacity needs in PLD

The housing crisis in British Columbia highlighted the need for better data capacity in PLD. Questions about the amount of foreign ownership of property in the province and its regional distribution were unanswerable by government because PLD lacked the required data and analytical capacity. Instead, the media advanced theories based on anecdotal evidence. Similarly, in 2016 government was unable to respond to media speculation about the extent and impact on house prices of shadow-flipping in BC’s real estate market.

The introduction of the speculation tax in Budget 2018 also exposed shortcomings in PLD’s access to data. The analysis required access to data that had been collected by Revenue Division on speculation declaration forms and combined with assessment and land title data. PLD then augmented this data with income tax and geographic information to provide analysis that formed the basis of policy recommendations about the tax. The data received by PLD contained errors and was frequently incomplete and undocumented. Given no standing repository of reliable available to PLD, the analysis was only successful following PLD’s concerted effort to obtain the data and to dedicate its only data science expert to the project.

Over the last few years, the mandate of PLD has also expanded in a way that highlights the need for enhanced in-house data capacity. The Maloney Report on Combatting Money Laundering in BC Real Estate (Maloney Report), released in May 2019, called for the Ministry of Finance to establish a unit that would detect money laundering in BC’s real estate sector. Such analysis, often termed “flag analysis,” uses multiple data sources to uncover otherwise invisible indicators of money laundering. This type of analysis requires significant access to data and data science specialists who have the skills to extract the information from that data.

In addition, PLD is tasked with providing analytical support to emerging priorities including a new fiscal relationship with indigenous communities and GBA+ analysis that requires the assessment of policy options on various demographic groups. This type of analysis is difficult without experts who the ability to marry demographic information with tax data and without access to considerable data holdings.

Ministry wide capacity

The issues related to data capacity in PLD are symptomatic of broader data capacity concerns within the Ministry of Finance. Data capacity in the Ministry is currently housed in various branches of various divisions (OCG, Revenue, Treasury Board, Provincial Treasury, Corporate Services and PLD). This siloed approach is inconsistent with modern data management practices and the Information Management Branch (IMB) within the Corporate Services Division has a goal of modernizing the Ministry's information systems.

FREDA Data Branch: the Long-Term View

The Branch is intended to be a stand-alone unit within PLD. In the long term, the Branch should be:

- *Nimble and responsive:* The Branch will have the capacity to respond quickly to urgent requests for analysis by tax policy analysts. To meet this core function, Branch staff will have quick access to its own repository of high-quality data holdings and the technical skills needed to undertake the analysis;
- *Pro-active:* The Branch will use data holdings to undertake analysis related to money laundering in BC real estate including flag analysis. It will work with federal and other provincial organizations to develop new methods of detecting money laundering using housing and tax data.

The Branch will also have the capacity to identify analytical projects based on emerging policy issues and, if consistent with priorities set by Ministry executive, will provide empirical evidence to inform the policy analysis on those issues. For example, the Branch will have the capacity to develop projects using historical time

series data that shed light on the relative impacts of different policy changes on the behaviour of individuals and corporations and on government revenues over time.

This type of analysis, combined with projections of demographic trends in British Columbia, will also allow the Branch to predict how revenue streams from various taxes may change in the future.

- *Contemporary:* The Branch will cultivate expertise in the economics of public finance and stay informed of academic literature that is relevant to the policy priorities of the division. BC has several excellent universities that produce research on public policy and the provincial economy. The Branch will serve as a place to absorb and evaluate this research, providing useful analysis and context to policy staff and, through them, to the Minister; and
- *Compatible with any new Ministry-wide system and policies:* Although the Branch will remain a stand-alone area with its own data holdings and the technical ability to undertake sophisticated data analysis, it should work with the IMB to ensure that corporate data holdings and storage methods meet the modern standards and core government policies as the Ministry modernizes its information technology infrastructure. Eventually, a corporate data warehouse may provide a primary source of Ministry data for the Branch replacing data extracts. To this end, Branch staff would maintain an ongoing dialogue with IMB staff.

Beyond the core functions of supporting tax policy analysis, supporting intergovernmental fiscal policy and pro-active anti-money laundering projects, the Branch would also be responsible for the following activities within Finance:

- *Bolstering analytical capacity within tax policy branch:* The Branch will have the ability to create data tools that tax policy analysts can use to undertake routine analysis. It will be able to provide data to analysts that is properly verified and documented. This process will free tax policy analysts to focus on policy issues and will provide them with greater confidence in the quality of quantitative implications;
- *Supporting Revenue Division:* The analysis undertaken in the Branch may provide leads that may be useful to Revenue Division in its audit efforts. The Branch may be able to support the Revenue Division in other ways such as generating reports related to government revenues; and
- *Contributing to fiscal forecasting:* Analysis undertaken with respect to the housing market and property values would be useful for economic and fiscal forecasting.

In the longer term, the Branch will have the capacity to provide information and analysis to clients outside the Ministry. The extent to which information could be disclosed, to whom, and for what purpose would be the subject of further analysis. External clients could include:

- *Other ministries:* For example, analysis undertaken in the Branch could be useful for housing policy in the Ministry of Municipal Affairs and Housing, for climate change policy in the Ministry of the Environment, to support government-wide data initiatives in the Ministry of Citizens' Services, and to support program development in the Ministry of Social Policy and Poverty Reduction;
- *Regulators:* Information about mortgage brokers or real estate licensees who are associated with transactions that attract several red flags in money-laundering analysis may be of interest to regulators at the British Columbia Financial Services Authority. Similarly, the names of lawyers who have acted for convicted money launderers or whose names arise repeatedly in real estate transactions that attract red flags may be of interest to the Law Society of British Columbia;
- *Federal entities:* The Federal Department of Finance, the Canada Mortgage and Housing Corporation, and Statistics Canada are all undertaking projects to understand and reduce money laundering in Canada. Branch analysis could support some of this work; and,
- *Law enforcement officials.* The Maloney Report argues that the Ministry of Finance could use its data to provide information to law enforcement officials in respect of money laundering. The extent to which information about specific individuals could be shared is not yet clear. However, analysis that shows geographic clusters of "red flags" or other aggregated information might be useful to law enforcement in combatting money laundering.

Reaching this long-term view of the Branch requires a phased approach. The first phase (lasting approximately three years, depending on resourcing) would focus on meeting the data needs of the Ministry of Finance to support tax policy analysis, intergovernmental fiscal analysis, tax administration, provincial fiscal analysis and anti-money laundering policy. This focus would be on gathering the data sets, transforming them into formats that are suitable for analysis, creating the necessary data storage systems and developing the professional staff complement to support these activities.

Beyond the initial phase, the Branch would adopt a more external focus. The Branch would look to supporting broader systems development within the Ministry of Finance. It would also share information to support the work of other ministries, federal tax enforcement and anti-money laundering initiatives, and provincial regulators. It could

potentially provide information to law enforcement agencies and the Law Society to support their anti-money laundering initiatives.

The expectation is that in the long-term, the Branch would have a small cohort of technical staff focussing on issues related to the data. The reporting structure would be relatively flat. The relatively small staffing complement combined with a flat reporting structure and a repository of its own data holdings would allow the Branch to remain nimble and responsive to emerging priorities.

Phase 1: Building the Foundation

The short-term priority of the Branch is to develop the capacity to support clients within the Ministry of Finance. Within about three years (depending on resourcing) the Branch would develop its core capacity, including data holdings and analytical capacity, and provide information and analysis to Ministry clients. Other secondary priorities would be an ongoing dialogue with IMB staff as they develop the ministry-wide data storage system, and with external stakeholders as they clarify their needs for data and analysis.

Developing Core Capacity

The Branch will need to invest time and resources in start-up activities to build capacity. These activities include developing a repository of data holdings that are in a form that can be used for analysis and that are stored appropriately. It also includes developing a culture among staff that integrates data analysis into policy analysis to further promote evidence-based policy.

Data holdings

- The data needed to undertake analysis can be set out according to its importance in supporting priority policy projects as communicated by the ADM of PLD. Based on current tax policy, intergovernmental fiscal relations and anti-money laundering priorities, the current priority for data is as follows:
 - Immediate priority is data on land titles from the Land Title and Survey Authority; speculation and vacancy tax data; property transfer tax, personal income tax; corporate income tax; BC assessment property assessment; and provincial sales tax.

- Medium priority data includes data on home owner grants, land tax deferrals, beneficial ownership of land (once available), the corporate registry and pre-sale condo flipping.
- Of lower priority is data from other entities that includes carbon emissions data, geographic data and maps, further census data, and more information from various Statistics Canada surveys.
- The data will be cleaned and documented according to best practices endorsed by the data experts at the Ministry of Citizens' Services. The objective would be to create a documented inventory of all relevant data holdings, held by the Ministry of Finance or elsewhere, with detailed data dictionaries to describe what information is available.
- To improve the quality of the data, changes in policy may be required to ensure that the forms used to collect data are correctly filled out and are complete.
- Changes may also be needed to legislation to ensure that types of information that are collected reflect the need for information for policy analysis in addition to the need for tax administration. Provincial legislation governing the collection and use of data would be reviewed and potentially amended to ensure that the data could be collected and used for tax administration, tax policy analysis, economic forecasting and policy analysis related to money laundering.

Data storage and transmission

- In the short term, the data will be updated periodically with the objective that eventually, data would be updated in real time. Branch staff will work with IMB staff to develop efficient and secure ways of transmitting data to the Branch.
- The data will be stored securely and centrally with Branch staff having control of and access to all data. Ministry staff would be granted access to data that they require and if needed, Branch staff could provide them with training on its use. Branch staff would work with IMB staff to ensure that the data storage is properly maintained and sufficiently secure.
- The Branch will produce a privacy impact assessment that sets out the required data holdings, their intended use and how they will be stored.

Analytical culture

- The Branch would foster a culture that promotes evidence-informed policy making by providing rigorous data analysis to policy analysts as requested at every stage of the policy process. These stages are as follows:
 - **Framing:** provides analysis of the social or economic context against which a policy decision is being considered. What is the problem we are trying to fix? How significant is the problem? How is it distributed? How can we quantify it?
 - **Decision:** provides analysis of proposed policy solutions. How will people be affected? Who will be affected? How much of the problem will be solved? How much will it cost? What are the GBA+ implications?
 - **Evaluation:** provides empirical analysis of the impact of policies that have already been implemented. Who is being affected by the policy? Does analysis of the data uncover loopholes, gaps, or areas of improvement that can be shared with policy analysts to further support their work?

Branch Products

Within the short term, the Branch will deliver concrete information and analysis in respect of its core activities. These products include basic information for ministry clients and analysis generated within the Branch in support of Ministry activities.

Basic information for Ministry clients

This basic information includes:

- Simple data reports so that the tax policy analysts understand the trends within the tax sectors for which they are responsible. This includes providing regular reports on economic or fiscal developments in their area of responsibility, as well as a clear description of the data and its limitations;
- Tools for tax policy analysts that visually track, analyze and display metrics and key data points to monitor the tax system and that can be used to contribute additional statistical analysis to briefing materials; and
- Housing data to support the economic forecasting team in Finance.

Pro-active analysis

Analysis undertaken within the Branch as part of its core activities includes:

- Quickly digestible reports for the Minister and senior executive related to taxes and potential tax policy changes, including maps to show the geographic impacts of potential tax changes, and interactive graphs to show the potential impacts of alternative assumptions on impacts;
- Support for special projects and *ad hoc* reports. For Ministry projects that require data analysis, the Branch will have the expertise to know where to find the most relevant data, what questions to ask, and how to communicate the data in a clear and precise way;
- Data analysis that is carefully disaggregated according to demography and various measures of personal identity, in support of the Ministry's commitment to GBA+ analysis;
- Audit leads to Revenue Division based on inconsistencies arising from comparisons of the information in various data sets. With enough resources, the Branch could also help with providing open data to the public and some of the other reporting functions related to tax revenues;
- A red-flag analysis of where potential money laundering is occurring in British Columbia's real estate sector;
- Bespoke analysis of various tax policy changes that require advanced data analytic techniques, such as analysis that disaggregates the relative impacts of various historical changes in the tax regime on incomes and revenues; and
- Analysis that uses demographic trends to predict future revenues and trends.

Building external relationships

The Branch will continue to participate in multi-jurisdictional, cross ministry and intra-ministry forums relating to increasing data capacity for anti-money laundering and policy analysis. Participation in federal-provincial forums is consistent with recommendations in the Maloney Report to engage with the federal government to reduce money laundering in BC real estate.

Maintaining relationships with researchers within government and the academic sector will ensure that the Branch is informed of developments related to public policy analysis in the province. Working with IMB and other information technology areas in government is intended to ensure that the Branch's data needs are reflected in broader information technology projects, particularly in the Ministry, and to ensure that data capacity developments within the Branch are consistent with developments elsewhere in government.

This work includes:

- Making recommendations to the Minister about information requests that could be made of the federal government that would aid in identifying and reducing money laundering in British Columbia;
- Providing recommendations that the province could make to the federal government to enhance the federal legislative framework related to anti-money laundering; and
- Communicating with IMB and government's data council about activities in the Branch.

Phase 2: External Focus

Once the Branch has been established and is delivering on its core activities, it will expand its focus outward with the two objectives of improving enforcement and enhancing government's analytical capacity.

Much of the data that the Branch uses contains personal information that can only be used for specific purposes under current legislation and those purposes may restrict the ability for the Branch to share information. Furthermore, some of the data that the Branch can receive free of charge is only available to the public for a fee and the

Branch must be careful not to reshare data in ways that would undermine financial models of the groups that collect the data.

Consequently, the expanded focus of the Branch and new uses of the data will require significant policy work in the Branch. Although staff need to understand the current restrictions on data use to achieve the objectives in Phase 1, expanding the use of the data to support external clients together with potentially increasing the scope of data holdings in Phase 2 will require a comprehensive understanding of the myriad statutes that set out permitted uses for data.

Staff will also need to explore further legislative changes to allow for expanded data uses. In conjunction with experts in IMB, they will amend privacy impact assessments to accommodate new uses for data and create data sharing protocols with external agencies.

Improving enforcement

Analysis within the Branch could uncover trends in or specific instances of tax evasion, money laundering, or other illicit activity and, if it has the legislative authority, could pass that information on to various entities including:

Regulators

Regulators that could benefit from the Branch's analysis include provincial regulators like the British Columbia Financial Services Authority and the British Columbia Securities Commission, or self-regulatory bodies like the Law Society of British Columbia.

Law enforcement officials

One of the recommendations from the Maloney Report is that Finance could provide information about specific individuals to law enforcement authorities. The Branch will explore this possibility, although early indications are that doing so would raise significant legal concerns. However, the Branch may be able to provide useful analysis to enforcement officers about geographic areas where money laundering activities are concentrated or other indicators of money laundering that do not point to specific individuals.

Tax enforcement officials

From its inception, the Branch will work closely with Revenue Division staff to support their tax administration efforts. However, these efforts could be expanded over time both in their provincial scope but also with respect to the Canada Revenue Agency.

The civil forfeiture office

The analysis done by the Branch could provide leads to the civil forfeiture office and, if new tools are implemented, the analysis could lead to forfeitures related to unexplained wealth orders.

Enhancing government's analytical capacity

Over time, the Branch will be able to provide analysis to other government bodies that will promote evidence-informed policy making more widely. It will also have access to new data sources that will enhance the Branch's analytical capacity.

Other Clients

Data and analysis undertaken by the Branch could support analysis in other ministries. For example, information about housing trends would likely be useful to the Ministry of Municipal Affairs and Housing and the Ministry of Social Development and Poverty Reduction, particularly when combined with information about income distribution. The data division in the Ministry of Citizens' Services may be able to make use of anonymized data sets generated by the Branch, as may BCStats.

The federal government may also benefit from the Branch's analysis. StatsCan and the Canada Housing and Mortgage Corporation are eager to have access to provincial land title data and to data from the land owner transparency register to aid their analysis of money laundering activities in the real estate sector. The Branch may also be able to provide analysis to FINTRAC to support its anti-money laundering work.

New Data Sources

Although new sources of data will become evident as the Branch develops and as staff interact with more areas of government, a few likely future sources of data are already known.

- The intergovernmental fiscal analysis priorities of PLD will require jurisdictional data, some of which will be available from federal sources.
- The rewriting of the *Mortgage Brokers Act* and the restructuring of the real estate regulator in British Columbia provide an opportunity for government to re-examine the reporting requirements for real estate licensees and mortgage brokers. This re-examination may yield further data sources that could flow to the Branch and that could expand the types of policy questions that the Branch can answer.
- A further recommendation of the Maloney report is the creation of a publicly searchable database of beneficial owners of companies. If this database is created, it would provide a new data source for the Branch that would be particularly useful for anti-money laundering initiatives.

Conclusion

The need for a dedicated Branch within PLD with the capacity to undertake empirical policy analysis has become increasingly apparent with the introduction of the speculation tax, the government's focus on reducing money-laundering in BC real estate and the housing crisis.

The creation of such a Branch presents an opportunity to improve policy analysis in PLD significantly. The Ministry collects and has access to a wealth of tax data that is currently underused but which, if analysed by staff with the appropriate expertise, could unlock insights that will inform future tax, anti-money laundering and intergovernmental fiscal policy, and in doing so, promote and enhance a culture of rigorous, evidence-informed policy making in the division.

This strategy has set out a vision for the creation of a relatively small Branch within the PLD that can be nimble and responsive to the division's needs while also initiating projects to advance the division's work and keeping abreast of relevant academic thought. The Branch's immediate priority is to develop the capacity to support the needs of the Ministry, but once this capacity has been developed, the Branch will expand its services to include external clients.