REPORT

ANALYSIS OF THE ECONOMIC IMPACT OF THE SERVICE DE SÉCURITÉ INCENDIE DE MONTRÉAL'S INTERVENTIONS FOR YEAR 2015

François Delorme
Dave Waterhouse

The *Service de sécurité incendie de Montréal* (SIM) is the official name of the City of Montreal's Fire Department. Throughout this document, we will refer to it as SIM.

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ACKNOWLEDGEMENTS

This project was initiated in the Fall of 2014 when Mr. Jacques Rousseau shared with us an article by Captain Tim Kreis discussing an economic assessment model for the Fire Safety Operations of Phoenix, Arizona. This article prompted us to seek to implement this model in Montreal.

We would like to extend our most sincere gratitude to the Director of the Service de sécurité incendie de Montréal, Mr. François Massé, who embraced this project right from the outset, providing us with all the much-needed resources. We will also be forever grateful to the executive team and staff for their ongoing support as project sponsors: Mr. Sylvain Carrière, Mr. Richard Liebmann and Mr. Gordon Routley.

We would also like to extend our most heartfelt thanks to Mr. Jeff S. Case, of the Phoenix Fire Department, and Dr. Anthony Evans, of the W.P. Carey School of Business of Arizona University. Their utmost generosity, unqualified support and vision were paramount in the advancement of this analysis. Their stringent work on the original model was the first step in the future development of a new standard in the recognition of the work of fire departments. Mr. Case also referred us to Mrs. Amanda Kimball, of the National Fire Protection Association Research Foundation, who provided an incredible support. We recommend her most valuable collaboration to whoever would like to embark in a similar project.

In addition, we would like to emphasize the significant contribution of the Montreal disaster-stricken entrepreneurs who provided the information required for our data collection, and the outstanding assistance of SIM's administrative and professional staff: Mrs. Nancy Fortin, Mrs. Natacha Grenier, Caroline Guindon, Myriam Macameau, Nadia Morin, Angela Rivizzigno and Mr. Steve Girard. We would also like to mention a significant contribution from the Institut de la statistique du Québec's close contributors to the project, including Mr. Sébastien Gagnon, who took care of the Quebec Cross-Sector Model simulation and provided a most valuable assistance in the shock modelling phase.

Finally, to all our respective associates and families, who support us and assume part of the sacrifices that need to be made, we extend our infinite gratitude, as each of you made a contribution to this project.

François Delorme
Dave Waterhouse

I would like to convey my heartfelt thanks to Mr. François Delorme as the project driving force. His advanced expertise in economics and confidence in the project from the early days have fully contributed to the project achievement. All my respect and gratitude are extended to this seasoned and deeply human partner.

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Dave

I wish to thank personally Dave as the initiator of this project, which would have never been feasible without his most valuable contribution. His dedication, commitment and outstanding support truly inspired me.

François

SUMMARY

The purpose of this analysis is to assess the preserved value—versus lost value—further to the Service de sécurité incendie de Montréal (SIM)'s interventions. So doing, an economic assessment of SIM's operations has been completed based on the value added economic impact of two types of interventions: (1) fires in commercial buildings where jobs are at stake; and (2) prehospital medical emergencies for cardiopulmonary arrests (CPA). This analysis was based on SIM's intervention data for 2015.

This analysis is a variation of the assessment completed by the W.P. Carey School of Business of Arizona University and of the Pheonix, Arizona Fire Department, published on February 2, 2014, in connection with 42 commercial building fires affecting 51 businesses. This assessment could demonstrate that $US650M (in 2012 dollars) were preserved in the Arizona State Gross Domestic Product (GDP) and 7,446 jobs were saved.

For this analysis, out of the 271 SIM's interventions in commercial building fires in 2015, 174 were eligible for the analysis. Data collection made with the affected businesses generated a 63% response rate, for a sample of 110 interventions.

With respect to CPAs, among the 735 individuals who received SIM's first responder care in 2015, 43 have survived further to their hospitalization without disabling neurological sequels, and could therefore be fully rehabilitated. The sample is made of these 43 cases.

The Institut de la statistique du Québec's Cross-Sector Model was used in the assessment of the final impact on each Quebec economic sector with respect to output, jobs and government tax revenues. This model is based on an input-output table reflecting cross-industry operations, i.e. all the procurement transactions made by an industry from all the other industries as part of the economic activity. In addition, the businesses included in the study were classified in accordance with the North American Industry Classification System (NAICS).

Therefore, the analysis could establish that the preserved economic value for the 110 disaster-stricken businesses amounted to $1.55B whereas 20,903 jobs were saved. This reflects a conservative estimate. The economic value of the 43 individuals saved further to a CPA is estimated to $348M based on the value of a statistical average human life of $8.1M. When adding both amounts, the total value preserved through SIM in Quebec in 2015 therefore amounts to $1.89B.

In summary, there is evidence that SIM had a direct impact on Quebec total GDP in 2015. Indeed, barring SIM's intervention, the Quebec GDP could have been 0.5% lower. This $1.89 B generated value demonstrates that each dollar invested in SIM (endowed with a budget of $360.5M in 2015) generated a 527.5% return on investment for the Montreal agglomeration citizens.

Therefore, this report concludes that SIM's operations can no longer be deemed as a sheer expenditure, but rather as an investment generating a direct and strategic impact on Quebec economic activity.

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LIST OF ABBREVIATIONS AND ACRONYMS

$B	Billion Dollars
$K	Thousand Dollars
$M	Million Dollars
CBA	Cost-Benefit Analysis
CIRANO	Center for Interuniversity Research and Analysis of Organizations
CNESST	Commission des normes, de l'équité, de la santé et de la sécurité du travail
CO	Commanding Officer (of Operations)
CPA	Cardiopulmonary Arrest
FSS	Fonds des services de santé
GDP	Gross Domestic Product
GST	Goods and Services Tax
ISQ	Institut de la statistique du Québec
NAICS	North American Industry Classification System
ODSS	Operational Data Subsystem (of SIM)
QCSM	Quebec Cross-Sector Model
QPIP	Quebec Parental Insurance Plan
QPP	Quebec Pension Plan
QST	Quebec Sales Tax
REMI	Regional Economic Model, Inc.
SIM	Service de sécurité incendie de Montréal
VSL	Value of a Statistical Life

INTRODUCTION

Fire departments have long been considered, worldwide, as a necessary expenditure, i.e. a "mandatory insurance policy" a community should underwrite to protect lives, goods and the environment. More and more, however, public authorities demand that their Fire Department justify their budgets from an overall organization optimization standpoint. The challenge then becomes not only to remain efficient in a resource reduction environment, but also to justify the operational requirements in a systematic and clear way.

Although they became well diversified, all the fire department performance indicators still have, as a common denominator, a *reduction* of lost human lives and physical properties. Without ignoring these indicators in connection with the primary mission of fire departments, the analysis presented herein rather deals with the economic value of firefighters' interventions, and therefore, with the economic value they help *preserve*. Therefore, this analysis changes radically the paradigm in the perception and analysis of Fire Departments.

Similarly, each time they quench a fire or resuscitate an individual, firefighters feel they have a social and financial impact by assessing all they could preserve. The citizens also share this perception. It is therefore easy to understand that a firefighters' successful intervention has an economic and human value.

Our analysis addresses two types of interventions, i.e. fires in commercial buildings where jobs were at stake, and interventions of firefighters as first responders (FR) with the victims of a cardiopulmonary arrest, through the following questions: What proportion of the affected business sales volume was preserved through a firefighters' intervention? And how many jobs could be preserved? What is the economic impact of FR's fast and efficient intervention with an person in cardiopulmonary arrest?

Purpose of the Analysis

The purpose of this analysis is to assess, over a 12-month period, i.e. for year 2015, the economic impact of SIM's successful interventions during fires in commercial buildings where jobs were at stake and during prehospital medical emergencies for cardiopulmonary arrests. For fires in commercial buildings, this assessment is focussed only on any commercial organization which would have lost its output or operation capacity temporarily without a SIM's intervention.

Montreal Facts and Figures

Since its creation, a little more than 150 years ago, the Service de sécurité incendie de Montréal (SIM) has historically been committed to provide citizens with the best service level. Its mission statement is as follows: "We're working at all times to make the Montreal agglomeration safer by saving lives, property and the environment. This mission is accomplished by responding to all types of emergencies, including medical emergencies, fires and other urgent situations, and by carrying out prevention, education and civil protection activities".[1]

With an annual budget of $360,547,000 in 2015, SIM ensures, through 2,807 firefighters and 67 fire stations, the protection of some 1,900,000 citizens on a territory of 483 km^2. In 2015, SIM performed 127,050 interventions, including 81,143 FR interventions, accounting for 63.9% of the overall interventions.

It should be noted that the Montréal territory accounted by itself for 34.9% of the Province of Quebec total GDP in 2015. Therefore, assessing the impact of SIM's interventions on the Quebec economic activity can be very informative.

Prior Assessments

We understand that the Phoenix, Arizona Fire Department was the first to conduct an economic impact analysis for a fire department[2]. This analysis emphasized the positive impact of firefighters' interventions on the Maricopa County GDP during commercial and industrial building fires. Our analysis is basically supported by the Phoenix analysis methodology.

1 CITY OF MONTREAL. *Mission, vision and values* [online], [city.montreal.qc.ca/sim/mission-vision-and-values] (Reviewed on March 22, 2017).

2 EVANS, Anthony (2014). *The Economic Impact of Successful Commercial Fire Interventions – Phoenix Fire Department, June 1, 2012 – May 31, 2013*, Tempe, L. William Seidman Research Institute, W. P. Carey School of Business, Arizona State University, 19 pages.

The following 8 items, based on the Phoenix analysis report summary, are an appropriate summary of this analysis:

1. The study uses the REMI[3] econometric model specifically calibrated for the State of Arizona to estimate the economic impact of 42 successful interventions completed between June 1, 2012, and May 31, 2013, for commercial building fires affecting 51 commercial businesses or organizations.

2. Approximately 6,951 total private non-farm jobs could have been lost in the State of Arizona over the course of one year if the City of Phoenix Fire Department had not successfully intervened at the 42 commercial fires studied.

3. If government and farm sector employment is included, the total impact could increase to 7,446 jobs over the course of just one year in the State of Arizona.

4. Without these firefighters' successful interventions, the Maricopa County would have experienced most of the estimated job losses, i.e. 3,023 full-time jobs.

5. Without these successful interventions, the Arizona State GDP would therefore have been reduced by some $650M (based on 2012 dollars), accounting for a 0.2% drop[4]. The real disposable personal income would have decreased by some $295.6M (in 2012 dollars), i.e. a loss of 0.1%[5].

6. Similarly, the Arizona State land and tax revenues would have decreased by some $35M (in 2012 dollars) if the 42 commercial building fires had not been controlled.

7. Therefore, it can be concluded that the City of Phoenix Fire Department had a significant impact on the local economy at both state and the county level over a 12-month time horizon, exclusively based on their successful commercial fire interventions.

8. With successful commercial fire interventions accounting for only 3% of the City of Phoenix Fire Department's annual workload, the study estimates are in all probability a conservative measure of the Fire Department's total annual economic impact for Maricopa County and the State of Arizona.

Furthermore, three analyses commissioned by SIM and completed by the Center for Interuniversity Research and Analysis of Organizations (CIRANO)[6] were considered in our assessment.

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3 REGIONAL ECONOMIC MODEL, INC. *The REMI model* [online], [www.remi.com/the-remi-model] (Reviewed on March 22, 2017).

4 Percentage change calculated from the U.S. Bureau of Economic Analysis data for 2012.

5 Percentage change calculated from the U.S. Bureau of Economic Analysis data for 2012.

6 "CIRANO brings together over 230 professor-researchers active in a variety of disciplines, including economics, finance, management, information systems, computer science and operational research, psychology, sociology, political science, law, history, and medicine. These researchers belong to eight Quebec academic institutions and more than ten institutions from outside the province in Canada, the United States, and Europe. Recognized internationally, they produce high-calibre scientific work and publish in the best journals—over twenty of them hold research chairs." (Extracted from CIRANO. *CIRANO in summary. Our Researchers*) [online], [www.cirano.qc.ca/en/about/cirano] (Reviewed on March 22, 2017).

The first analysis was published in November 2004. The mandate and proposal were as follows:

> [...] perform an exploratory analysis concerning the economic assessment of the Service de sécurité incendie de Montréal's operations. Ongoing research shows that the existence of a Fire Department presents a significant potential (in terms of efficiency and impacts). The CIRANO research project therefore combines the overall necessary components to help structure adequately a future insight study concerning: (1) the support for some investments and the associated cost sharing; (2) the resource allocation public decision-making for fire departments; (3) assessing the relevance of partnership implementation (for instance with insurers or other emergency preparedness stakeholders). In conclusion, this report proposes a summary review of the primary financing options available to SIM, based on an economic insight and the reality experienced in other jurisdictions, combined with the cost-benefit analysis developed in the previous chapters.[7]

The second analysis was released in January 2004 and was intended to assess the impact of the implementation of the first responder service on the new SIM's territory, established further to the municipal amalgamations and including the overall Montreal agglomeration. The mandate and proposal were as follows:

> [...] complete an exploratory analysis of the economic costs and benefits (including a reduction of healthcare social costs) for the first responder services. Current research shows that the existing first responder service provides significant potential (in terms of efficiency and impacts), although very frequent issues in connection with organization and financing never fail to happen. Therefore, the CIRANO research project combines the overall components required to help structure adequately an insight with respect to the implementation of a first responder service within the Fire Department of the City of Montreal and assess its profitability (and its issues for the community). However, first responders are one of the links in the emergency prehospital services chain of action, and an impact assessment must consider this global chain. In conclusion, this report proposes a summary review of the main financing options available to SIM from an economic insight and the reality experienced in other jurisdictions, in addition to the cost-benefit analysis developed in the previous chapters.[8]

The third analysis is actually an update of the previous one and was published in February 2017 with the following mandate:

> In September 2015, after many years of department operations, the City of Montréal mandated CIRANO to complete an *ex-post* economic analysis of the first responder service. The analysis objectives are multiple: Assess the service real impact on mortality and morbidity and also on the wellness of the victims, assign an economic value to the benefits, assess the first responder service costs, and finally, estimate the value assigned by the Montrealers to the existence of first responder services. Therefore, this study deals with an economic assessment of the service and also proposes additional assessment components to be considered in the economic assessment in connection with the organization and efficiency of available services.[9]

7 DE MARCELLIS-WARIN Nathalie, Ingrid PEIGNIER and David BOISCLAIR (2004). *Analyse économique des activités du Service de sécurité incendie de Montréal : une étude exploratoire*, No. 2004RP-22, Montreal, CIRANO, 165 pages.

8 DE MARCELLIS-WARIN Nathalie, Ingrid PEIGNIER and David BOISCLAIR (2004). *Évaluation économique de l'implantation du service de premiers répondants au sein du Service de sécurité incendie de Montréal*, No. 2004RP-02, Montreal, CIRANO, 185 pages.

9 DE MARCELLIS-WARIN Nathalie, François VAILLANCOURT, Ingrid PEIGNIER, Brigitte BOUCHARD-MILORD and Alain VAILLANCOURT (2017). *Évaluation économique du service de premiers répondants sur le territoire de l'agglomération de Montréal*, Montreal, CIRANO, 142 pages.

Appendix A to this report helps qualify the scope, objectives and methodology of CIRANO's analyses, more specifically the February 2017 analysis, detailing the differences and fit between these analyses and ours.

Our analysis forms the basis of an overall assessment of the economic impact of fire departments' interventions. This impact has a quantifiable value, which could be measured based on a proven scientific methodology emphasizing the corollaries generated by response times, i.e. the time to arrival of a fire department on an intervention site, and the strike force of firefighters upon arrival. These two components, when they are efficient, create a synergy which helps reduce physical losses or increase CPA victims' survival rates based on the type of intervention, which therefore adds an economic value to interventions.

In this report, we will address, in the first part, the macroeconomic impact of SIM's interventions in connection with commercial building fires where jobs were at stake on the Montreal agglomeration territory for year 2015, and in the second part, we will review the value of human lives saved through first responder firefighters' interventions on the Montreal agglomeration territory for year 2015.

1 MACROECONOMIC IMPACT OF SIM'S INTERVENTIONS DURING COMMERCIAL BUILDING FIRES IN 2015

1.1 Data Collection

The first approach consisted in sharing, with a coauthor of the Phoenix analysis, Mr. Anthony Evans, of the W.P. Carey School of Business of the University of Arizona, on the methodology used in the analysis and the REMI model. The purpose was to understand how we could develop a methodology considering the Canadian and Quebec tax specificities while remaining consistent with the Phoenix analysis.

Thereafter, with the assistance of the Institut de la statistique du Québec (ISQ), we selected the strategy to be used, still with a concern to remain consistent with the objective and methodology used in the Phoenix analysis. We have retained from the outset the Quebec Cross-Sector model (QCSM). This model is detailed under Section 1.3.

The second step consisted in extracting, from SIM's Operational Data Sub-System (ODSS), in the form of a table, data concerning all the commercial building fires for year 2015. This internal database compiles information on each intervention provided by the Commanding Officer (CO) Operations in an intervention report, including data on the time length of interventions, owners, municipal assessments and an appraisal of damages experienced, in addition to a narration describing such things as facts, probabilities, resources, objectives and priorities of interventions, and also the strategies and tactics used.

The following information could therefore be extracted: date of intervention, SIM call number, nature of the call, address location, intervention code, building assessment, appraisal of inside building properties, overall building and inside property appraisal, damages in connection with the building and inside properties, damages outside the building, and cost amount of building damages as estimated by the CO.

On that basis, we could identify, for the purpose of our analysis, the commercial building interventions where jobs were at stake. In total, 271 interventions were identified for 2015. Thereafter, for each intervention, more accurate information was collected: building use[10], building location where the disaster occurred, and detailed damages caused by a disaster to a building, outside the building and to building contents.

For some address locations covering several businesses, some work had to be done to identify the building owners properly and the affected business owners[11].

10 Some buildings may have several uses. For example, a residential condominium building with ground floor businesses has two uses.

11 For instance, a commercial mall where the owner is leasing premises to businesses. Sometimes, owners are numbered companies, which adds to the difficulty of identification work.

From the 271 interventions eligible for the analysis, 97 were rejected for the following reasons:

a. No firefighters intervention upon arrival on premises (e.g. fire already extinguished).

b. Minor firefighters intervention without significant damages (e.g. fire in a garbage bin outside a building).

c. Business closure subsequent to fire (total loss).

d. Vacant or renovation state business during a fire.

e. Unable to contact the owner (e.g. numbered company).

f. Owner refused to provide required information.

g. Missing, erroneous or inconsistent intervention data.

h. Building use rejected from analysis (i.e. all public buildings: school, early childhood centre, hospital, municipal or government building, etc.), due to a different method used for assessing the economic impact of employment in connection with this area.

The last data collection approaches for commercial building fires led us to the core of the Montreal business community, since the last component to be added to the table was the gross sales volume of disaster-stricken businesses for 2015. Discussing one to one with the entrepreneurs helped us find out how firefighters' interventions and professionalism are recognized. The very high response rate of 63% attests to this satisfaction level. In the 174 interventions selected at the previous stage, 110 (63% of 174) were therefore eventually selected.

1.2 Methodology[12]

As mentioned, we were to develop a methodology based on the Phoenix analysis methodology while considering the Canadian and Quebec tax specificities. In addition, our implied objective was to provide, as also intended in the Phoenix analysis, a methodology which could be easily replicated and implemented as simply and efficiently as possible by any fire department based on experience.

This analysis was completed through the Quebec Cross-Sector model (QCSM) of the Institut de la statistique du Québec (ISQ). The QCSM is based on Quebec input-output tables to simulate the effect on some economy-related changes. It should be mentioned that each of the 110 selected interventions was classified individually in the

12 Our starting points for the development of the methodology: MILLER R. E. and P. D. Blair (2011), *Input-Output Analysis: Foundations and Extensions*, Cambridge, Cambridge University Press, 784 pages and INSTITUT DE LA STATISTIQUE DU QUÉBEC. *Economic impact studies*, [online], [www.stat.gouv.qc.ca/produits-services/etudes-impact-economique_an.html] (Reviewed on March 28, 2017).

input-output table in accordance with appropriate NAICS codes. Appendix F to this report specifies the data items incorporated in the model.

1.3 Quebec Cross-Sector Model (QCSM)

The QCSM[13] is an instrument to help simulate and translate, in economic terms, the effects of some real, anticipated or assumed changes in connection with the Quebec economic activity. These changes can include various projects involving investment expenditures, or operating or routine consumption expenses. Multiple cross-sector models are available worldwide, each reflecting their matching tax system. To calculate the economic impact of a project, input-output tables are used to track any expense or expenditure in the economic system.

The QCSM can estimate, among other things, value added, employment and imports necessary to meet a demand shock on Quebec economic activity. This model can also classify the effects in the production chain depending on their occurrence in the directly simulated sector (direct effects) or with the suppliers in this sector (indirect effects). From the various types of expenses, also called "shocks", the model will assess the impact on labour, value added, imports and other outputs. It also helps assess government income in the form of taxes and related taxes paid by salaried workers.

The QCSM helps not only assess these impacts, but also classify them as direct and indirect effects. Therefore, the model outcomes help assess the impact of the expense shock in the directly affected sector and in the supplier sectors of the latter as well. One of the largest uses of the QCSM is precisely this ability to distribute the impact of the initial shock between the sectors solicited directly by the demand and those with indirect contributions.

The projects simulated through the model involve outlays with an economic impact in the form of output, income, employment or imports. The model helps measure these effects and classify them based on those appearing in the sectors immediately affected by initial expenses (direct effects) or occurring in industries supplying the insert businesses (indirect effects).

13 INSTITUT DE LA STATISTIQUE DU QUÉBEC. *Le modèle intersectoriel, fonctionnement et applications, 2016 Edition* [online], [www.stat.gouv.qc.ca/statistiques/economie/comptes-economiques/comptes-production/modele-intersectoriel.pdf], page 25 (Reviewed on March 22, 2017).

In more technical terms, the model calculates the direct, indirect and total effects of an exogenous variation[14] of final expenses or of a given increase in an industry output. The economic effects or impacts are calculated based on labour, on value added to the cost of factors (wages and salaries before taxes, net income of individual businesses, and other gross income before taxes), on imports and on some tax receipts and related taxation revenues.

The model is first designed as an economic analysis instrument to help assess the effects of changes affecting the Quebec economic activity. This model is based on the structure of relationships between the industries. For this purpose, it systematically involves detailed information on the structures of expenses of the economic sectors and on the cross-sector demand distribution data.

1.3.1 Input-Output Table

The QCSM reference data actually come from the Province of Quebec input-output table for year 2012 as released by Statistics Canada, adjusted to account for the 2015 economic reality. The following is an explanation:

> "[...] the input-output tables form a basis for the Quebec Cross-Sector Model. These tables are an accounting representation of the Quebec economy output system. They help track interrelationships underlying the goods and services trades between the various Quebec economy business sectors and with foreign countries. 'The basic rectangular structure of tables helps review, on one side, the production and intermediate use of many goods and services in each of the productive sectors representing primary, secondary and tertiary industries and, on the other side, the details of the various sectors of ultimate demand such as households, fixed capital gross formations and various government levels'. […] To facilitate their balancing, the input-output tables are valued based on output prices matching the ex-plant sale prices. In the instance of a domestic business, these are therefore the sale prices net from all taxes and from the various margins of the model. For imports, output prices match the value (including insurance and freight) at the Quebec border excluding taxes and margins, but including import levies. The model uses seven types of margins to convert output price estimates into market price evaluations. These are the tax, wholesale, retail, transportation, warehousing, gas and pipeline margins. Based on the example of a chair with a $20 output price, when adding a $2 freight margin, $3 tax margin and $1 retail trade margin, the chair is therefore valued at $26 based on consumption price."[15]

14 The term "exogenous variation" is used by economists to describe an independent variation or a variation caused in the economic system. Exogenous variations are different from so-called variations driven by other internal variables in the economic system, such as consumption-driven variations caused by an increase of overall income.

15 INSTITUT DE LA STATISTIQUE DU QUÉBEC. *Le modèle intersectoriel, fonctionnement et applications, 2016 Edition* [online], [www.stat.gouv.qc.ca/statistiques/economie/comptes-economiques/comptes-production/modele-intersectoriel.pdf], page 15 (Reviewed on March 22, 2017).

In this table, industries are classified based on the North American Industry Classification System (NAICS)[16]. In addition, non-commercial sectors and value added at base prices are included.

ISQ updates the model data items on an ongoing basis. Therefore, the model helps calculate the economic effects through parameters which are largely updated for the current year.

> The North American Industry Classification System is unique among industry classifications in that it is constructed within a single conceptual framework. Economic units that have similar production processes are classified in the same industry, and the lines drawn between industries demarcate, to the extent practicable, differences in production processes. This supply-based, or production-oriented, economic concept was adopted for NAICS because an industry classification system is a framework for collecting and publishing information on both inputs and outputs, for statistical uses that require that inputs and outputs be used together and be classified consistently. Examples of such uses include measuring productivity, unit labour costs, and capital intensity of production, estimating employment-output relationships, constructing input-output tables, and other uses that imply the analysis of production relationships in the economy. The classification concept for NAICS leads to production of data that facilitate such analyses.
>
> In the design of NAICS, attention was given to developing a production-oriented classification for (a) new and emerging industries, (b) service industries in general, and (c) industries engaged in the production of advanced technologies. These special emphases are embodied in the particular features of NAICS, discussed below. These same areas of special emphasis account for many of the differences between the structure of NAICS and the structures of industry classification systems in use elsewhere. NAICS provides enhanced industry comparability among the three North American Free Trade Agreement (NAFTA) trading partners, while also increasing compatibility with the two-digit level of the International Standard Industrial Classification (ISIC Rev.4) of the United Nations. NAICS divides the economy into twenty sectors. Industries within these sectors are grouped according to the production criterion. Though the goods/services distinction is not explicitly reflected in the structure of NAICS, four sectors are largely goods-producing and sixteen are entirely service-producing industries.[17]

A project economic impact assessment initially requires that relevant information be converted into detailed additional expenses to be injected throughout the economy, specifying the industry(ies) responsible for these expenses. In this instance, we will focus on preserved expenses.

Expenses should also be distributed based on the various model transaction categories, i.e. goods and services purchase categories and compensation. The more this disaggregation is complete, the more it will reflect adequately the expenses associated with the reviewed project, and the more the simulation outcomes will be reliable.

16 STATISTICS CANADA, *The North American Industry Classification System (NAICS) Canada 2012* [online], [www.statcan.gc.ca/eng/sujets/norme/naics/2012/index] (Reviewed on March 22, 2017).

17 STATISTICS CANADA, *North American Industry Classification System (NAICS) Canada 2012* [online], [www.statcan.gc.ca/pub/12-501-x/12-501-x2012001-eng.pdf], page 5 (Reviewed on March 22, 2017).

The detailed information considered in the simulation software will be such that the economic impact measurement will generate different outcomes based on the specified industry or the goods and services categories where expenses will be incurred.

The model therefore assesses the impact of a shock on the accounting balance (reflecting the increase or preservation of so-called autonomous or exogenous initial expenses) and on different economic variables, through a distribution among the production areas based on a process known as "demand propagation". This process is achieved through various cycles, or iterations, of transactions between economic agents, as each cycle includes expenses for some agents which become revenues for other agents.

The model is based on the fact that the autonomous expense from a final demand area can be initially subdivided into direct purchasing transactions of productive primary factors such as hiring of workers, and also into goods and services purchases from other businesses. The purchase transactions and the use of primary production factors (labour, capital, etc.) by a sector represent for this sector a value added or internal production. Therefore, the direct labour purchase transactions by an institutional sector (households, governments, etc.) generate some output, or "value added", internal to the institutional sector itself: the latter then generates output for its own account and sells this output to itself, in a certain extent. Besides, the goods and services purchase transactions made with other businesses generate outputs, or "values added", in the various industrial production branches.

Considering the multiple expense and income cycles between economic agents, the model calculates, on the basis of cross-sector relationships in the economic table, how the increase in total autonomous expenses, or "shock", will be broken down, eventually, based on three major variables:

1. The value added, or increased Quebec domestic output.

2. Indirect tax receipts less subsidies (to assess the domestic output or value added at market price).

3. Imports (i.e. the content of demands of goods and services met through outside supplies).

This shock has been modelled to incorporate the fact all building fires will very unlikely always result in a total loss affecting sales for a full year. A modelling table exhibited in Appendix B has therefore been created, based on a simple elasticity rule. A theoretical association has been made between the percentage of the affected building total material losses and the percentage of business sales for a full year. This will help improve the realism of loss assessments in the current analysis.

1.4 Model Scope and Limitations

QCSM is a streamlined representation of the Quebec economy operation. It emphasizes the trade relationships observed in a given year between the various sectors. Although it is a very complex structure, the model cannot consider all the phenomena. Therefore, it relies on assumptions, which must be known so the findings can be used and interpreted correctly.

The following are the primary assumptions retained as part of this study during the modelling process:

a. The model assumes that industries are able to reach the output level required by the additional demand of goods and services. The sectors do not need, unless otherwise specified, new capital investments or additional machinery and equipment expenditures. In addition, the results are more adequate when simulating expenditure changes matching marginal amount calculations in connection with the materiality of the target sector.

b. There is a lack of scale economy. The model refers to a fixed output technology and there is no substitution between inputs (goods and services and primary factors).

c. The model assumes that industries will keep their market share for the individual goods and services generated, irrespective of the industry output levels.

d. The results calculated through the model show orders of magnitude rather than accurate or absolute values.

e. The model is static, and not dynamic. It does not refer to the time length of demand propagation. The results must, however, be interpreted in current year dollars, as if the impact would materialize during the reference year.

f. The model does not consider the induced effects, i.e. it does not consider the economic activity increase from increased income (such as wages and salaries) caused by the project or the shock. Only the additional expenses in goods and services of the productive sectors are reinjected into the economy.

g. The assumptions on the consistency of economic relationships between sectors account for a linear sector model, i.e. the direct effects are doubled when the amount of the shock injected into the economy is doubled.

As well, this study considers a single type of intervention, i.e. commercial building fires. We believe that all the other types of intervention, such as residential building fires, automobile extricating (jaws of life), natural gas leaks, interventions when facing dangerous goods or rescues of all sorts, also have an economic value which is beyond the scope of this mandate.

In addition, the model does not consider fire self-protection devices such as sprinklers and private intervention crews, which may have had an effect on the magnitude of a fire upon firefighters' arrival.

Lastly, it should be noted that the physical losses as stated by the CO in his intervention report represent a conservative estimate in a proportion of approximately 30% below the real loss cost. The total damage claim to insurers in a disaster is sometimes higher than the total discovered by the CO during a SIM's intervention. In addition, a business might have been closed for some time due to renovations, which adds to losses if this was not part of the insurance coverage.

These uncompiled data items increase the actual cost of losses in a disaster, which implies that the economic value of firefighters' intervention can be overestimated in some instances.

For all these reasons, the results of the analysis should be deemed as a minimum when considering all the activities of a fire department; however, these activities are under-evaluated due to the uncompiled data items of the actual effective losses. We cannot, however, quantify precisely the materiality of this bias, as data sets are not precise enough.

1.5 Summary of Results

Our analysis resulted in the following simulation, as calculated by the Institut de la statistique du Québec through the QCSM: Quebec economic impact of operating expenses of businesses benefiting from a SIM's intervention for year 2015 (preservations in dollar-based sales) adjusted based on effective coverage. The following is the result analysis. Information is supplemented in Appendices B and C, where shock modelling and detailed results are exhibited.

The following table[18] is a summary of the impact on output variables and imports.

Table 1
Impact on Output Variables and Imports

Total expenses per simulation	Salaried labour	GDP at market prices				
		Value added at base prices			Indirect taxes less subsidies	Imports
		Wages and salaries before taxes	Gross mixed income	Other gross income before taxes		
$K	Person-years	$K				
2,242,628	19,707	869,447	50,971	635,775	-66,014	671,442

Source (All the tables in this Report): Institut de la statistique du Québec.

The following table provides an estimate of the economic impact on the Quebec and Federal governments' revenues and on related taxation, based on the type of revenues.

Table 2
Impact on Government Revenues and Related Taxation

Total expenses per simulation	Quebec Government		Related taxes	Federal Government		Related taxes
	Taxes on salaries	Indirect taxes		Taxes on salaries	Indirect taxes	
	$K					
2,242,628	74,280	11,297	150,699	45,087	3,255	30,163

18 In all the tables shown in this report, as the figures were rounded up, the sum of the various items does not match the total.

1.5.1 Distribution of Initial Expenses and Description of the Analysis Base Data

Base data items have been codified in accordance with the schedule of sectors and subsectors of the QCSM's databank.

Table 3
Distribution of Operating Expenses of Businesses Benefiting from a SIM's Intervention for the Year

	2015 $K
Intermediate inputs (goods and services)	**1,151,818**
Value added at base prices	**1,090,810**
Wages and salaries before taxes	645,491
Gross mixed income	19,552
Other gross income before taxes	425,767
Total expenses	**2,242,628**
Subsidies	-74,474
Total expenses, net from subsidies	2,168,154

It should be noted that average salaries in the affected sectors are those for year 2015, since the expenses in this analysis were considered as if they were all incurred in 2015.

Similarly, the labour charge reflects 2015 average salaries, which means that the assessment has been completed as if expense injections were made entirely in 2015.

Lastly, the indirect taxation template used also considers the 2015 tax system, with a 5% Goods and Services Tax (GST) and a 9.975% Quebec Sales Tax (QST).

1.5.2 Distribution of the Total Economic Impact

The following table shows the total economic impact of operating expenses for businesses benefiting from a SIM's intervention for year 2015.

Table 4
Distribution of the Total Economic Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention for Year 2015, in Person Years

	2015 person-years
Labour	**20,902.1**
Salaried employees	19,706.6
Other workers	1,195.5
	2015 $K
Value added at base prices	**1,556,193**
Wages and salaries before taxes	869,447
Gross mixed income	50,971
Other gross income before taxes	635,775
Indirect taxes	**14,552**
Leaks	**677,976**
Imports	671,442
Other productions	6,534
Subsidies	**-80,566**
Total expenses, net from subsidies	**2,168,154**

The total impact on employment accounts for 19,707 jobs for salaried individuals and 1,196 jobs for the other workers, i.e. a total of 20,903 jobs (i.e. 0.5% of total jobs for workers aged 15 and over in 2015). The value added generated in Quebec is $1.6B, including $869.4M paid as wages and salaries to salaried employees. This preserved output value accounts for 0.4% of Quebec GDP in 2015. With respect to the gross mixed income, $51M was paid to other workers. With respect to other gross income, this reflects the balance of value added, for an amount of $635.8M.

The total impact of an expense shock is also broken down based on gross value added, net indirect taxes and system leaks. Therefore, the sum of total effects is equivalent to the initial shock. Besides, the sum of impacts for Quebec (value added at base prices plus net indirect taxes) is always lower than the initial expense, since the system leaks are not captured in the Quebec output process.

The following table shows the percentage distribution of the total economic impact. Therefore, the value added at market prices, including the value added at base prices to which net indirect taxes are added, accounts for 68.7% of the initial expense shock. The balance of impact is translated into system leaks at a rate of 31.3% of the initial expense shock. Adding the implications for Quebec (value added at market prices) to various system leaks results in the initial expense amount of $2.2B.

Table 4A
Distribution of the Total Economic Impact of Operating Expenses for Businesses Benefiting From a SIM's Intervention for Year 2015, in Percent

	%	2015 $K
Value added at market prices	**68.73**	**1,490,178**
Value added at base prices	71.78	1,556,193
Indirect taxes	0.7	14,552
Subsidies	-3.72	-80,566
Leaks	**31.27**	**677,976**
Imports	30.97	671,442
Other Productions	0.30	6,534
Expenses net of subsidies	**100.00**	**2,168,154**

Therefore, when considering the various systems leak, the value added ratio, commonly called "multiplier", is necessarily lower than the unit. Therefore, a value-added ratio of 0.687 can be estimated at market prices (value added at base prices plus indirect taxes net from subsidies). The value added ratio at market prices can be interpreted as follows: the Quebec final demand will be satisfied at 68.7% by the domestic sector and at 31.3% by the foreign sector, previous year inventories and sales of used goods and services.

$$\frac{\text{Value added at market prices}}{\text{Initial expenses}} = \frac{1{,}490{,}178}{2{,}168{,}154} = 0.6873$$

The lower the leaks will be, the higher the ratio will be. For instance, in the hypothetical case of a totally independent country where there would be no imports, the value added ratio would be equal to 1 at the most. We should remember that the value added ratio refers to the output concept. Indeed, nothing will guarantee that income received by the production factors will be totally expended in Quebec or will even be received by

Quebec residents. Regardless of this limitation, the value added at market prices is often used to assess the "Quebec content" of an expenditure project.

1.5.3 Impact on Value Added and Employment

Value added is the effort added by a producer to the transient inputs to meet the related demand. In the QCSM, this value is obtained from the amount of the production factors' compensation, including before-tax wages and salaries, gross mixed income and other gross income before taxes. The concept of economic benefits is therefore closely related to the concept of value added and GDP contribution.

Similar to the production factors' compensation, the business sectors must also hire employees in their production process. Employment accounts for the workload used by an industry to meet the related demand.

The following table shows the impact on employment and value added broken down into direct, indirect and total effects. As seen in Table 1, the total impact of the project under review generates 19,707 jobs for salaried employees and 1,196 jobs with the other workers, for a total value added of $1.6B for the Province of Quebec.

Table 5
Economic Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Employment and Value Added for Year 2015

	Direct effects	Indirect Effects		Total effects
		Initial suppliers	Other suppliers	
				2015 person-years
Labour	**15,703.1**	**2,654.1**	**2,544.9**	**20,902.1**
Salaried	15,032.5	2,420.1	2,254.0	19,706.6
Other workers	670.6	234.0	290.9	1,195.5
		2015 $K		
Value added at base prices	**1,090,810**	**256,404**	**208,979**	**1,556,193**
Wages and salaries before taxes	645,491	121,509	102,447	869,447
Gross mixed income	19,552	15,964	15,455	50,971
Other gross income before taxes	425,767	118,931	91,077	635,775

The total generated impact can itself be broken down into direct and indirect effects. In the instance of a productive sector, direct effects reflect the internal impact of the sector which meets initial demand. The goods and services expenses in this sector will generate the overall indirect impact. The first cycle of indirect effects comes from

the initial suppliers. The sum of subsequent iteration impacts will eventually result in indirect effects on the other suppliers.

In the instance of a final demand sector or a mixed simulation (combined productive sector and final demand), the direct effect reflects the sum of the internal impact on the final demand sector and of the impact on the initial suppliers. The goods and services expenses in these sectors will for their part result in the overall indirect impact.

As shown in the previous table, the total impact on salaried jobs represents a workload equivalent to 2,420 jobs with the initial suppliers and 2,254 indirect jobs with the other suppliers. For wages and salaries before taxes, $121.5M will be generated as effects on the initial suppliers and $102.4M as indirect effects on the other suppliers.

1.5.4 Impact on Value Added per Business Sector

In addition to providing an iterative assessment of the various estimated impacts, the model also helps break down, per business sectors, the impact on value added at base prices. The following table shows the sector-based distribution of the economic impact on value added. These expenses have total effects on the $1.6B value added for the Quebec economy.

Table 6
Economic Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention for Year 2015 on Value Added, per Business Sector

	Value added at base prices	
Business sectors	%	2015 $K
Primary sector	0.49	7,548
Utilities	2.37	36,871
Construction	1.45	22,594
Manufacturing	27.06	421,078
Other services	67.18	1,045,464
Non-commercial sectors	1.45	22,637
Total for sectors	100.00	1,556,193

The following chart helps assess the distribution of benefits on value added among the major Quebec economy business sectors, i.e. the primary sector (0.49%), utilities (2.37%), construction (1.45%), manufacturing (27.06%), other services (67.18%) and non-commercial sectors (1.45%).

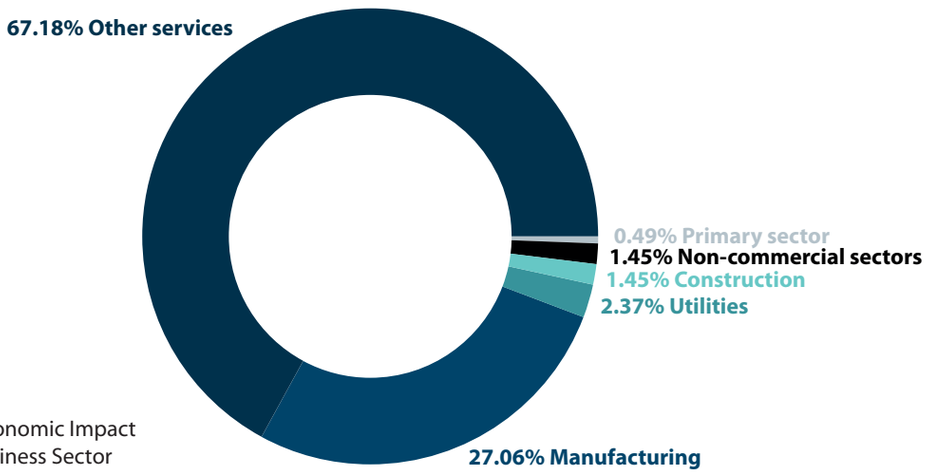

Chart 1
% Distribution of the Economic Impact on Value Added, per Business Sector

1.5.5 Impact on Wages and Salaries and on Salaried Workers per Business Sector

As an important share of value added, wages and salaries before taxes represent the salaried employees' gross compensation. Wages and salaries are estimated before any deduction (taxes and related taxation). Salaried employees are those who receive wages and salaries as estimated in the model. They receive these salaries as regular workers in the business sectors.

To assess employment, the measurement unit used in the QCSM is the person-year. Using this measurement unit actually helps standardize the annual workload in the various types of jobs such as part-time jobs and seasonal work. For instance, two part-time seasonal jobs are deemed as one job in person-years in the model.

The following table shows the sector distribution of the economic impact on employment and on wages and salaries. The expenses have total effects of $869.4M on wages and salaries before taxes, paid to 19,707 salaried jobs in person-years.

Table 7
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention for Year 2015 on Labour and Wages and Salaries, per Business Sector

	Salaried labour	Wages and salaries before taxes
Business sectors	2015 person-years	2015 $K
Primary sector	55.8	2,576
Utilities	66.6	6,573
Construction	215.0	11,836
Manufacturing	4,157.4	214,775
Other services	14,949.6	620,206
Non-commercial sectors	262.1	13,481
Total for sectors	19,706.6	869,447

The following chart helps assess the impact on employment per business sector, i.e. primary sector (0.3%), utilities (0.3%), construction (1.1%), manufacturing (21.1%), other services (75.9%) and non-commercial sectors (1.3%).

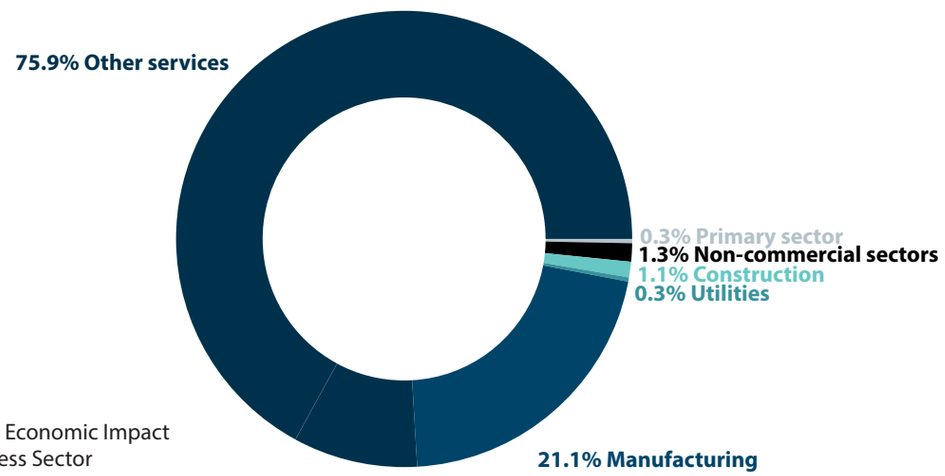

Chart 2
% Distribution of the Economic Impact on Labour, per Business Sector

1.5.6 Impact on Government Revenues and Related Taxes

The model calculates taxes and related taxes from wages and salaries paid up to salaried employees. For this purpose, the number of jobs is first estimated by dividing wages and salaries by the average salary for each sector. A taxable income is then estimated based on the various credited salary deductions. The Quebec and Federal taxation tables are then applied considering some adjustments such as tax credits and surtaxes. Therefore, the model helps break down the tax revenues generated based on the two government levels and considering some average deductions.

The model also estimates the salaried employees' and employers' contributions to the various social security funds. In Quebec, the related taxes as assessed by the model account for the amounts paid up to the Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST), to the Fonds des services de santé (FSS), to the Quebec Parental Insurance Plan (QPIP) and to the Quebec Pension Plan (QPP). With respect to the Federal Government, the model considers the contributions to the Employment Insurance (EI) Plan.

It should be noted that taxes on wages and salaries only are accounted for. Since taxes are already included in wages and salaries, care must be taken not to add these to taxes assessed in a simulation. It should be noted that the model does not calculate taxes on corporate profits or property taxes.

Related taxes should not be included theoretically in government revenues calculations. The amounts assigned to related taxes are contributions to social security funds to be assigned to a specific subsequent use. It should also be noted that taxes paid on the purchase of a simulated sector's inputs appear in the column "Initial suppliers". Taxes paid by all the other sectors indirectly solicited by the initial shock are for their part recorded in the column "Other suppliers".

Table 8
Economic Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Government Revenues and Related Taxation for Year 2015

Revenues and related taxes	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers	
	2015 $K			
Quebec Government revenues	**53,639**	**18,081**	**13,858**	**85,577**
- Taxes on wages and salaries	53,639	11,576	9,065	74,280
- Sales taxes	...	294	717	1,010
- Specific taxes	...	6,211	4,076	10,287
Federal Government revenues	**31,881**	**8,942**	**7,518**	**48,341**
- Taxes on wages and salaries	31,881	7,504	5,702	45,087
- Sales taxes	...	90	841	931
- Taxes and Excise Duties	...	1,348	975	2,324
Related Taxes	**137,533**	**23,436**	**19,892**	**180,861**
- Quebec (QPP, FSS, CNESST, QPIP)	114,675	19,523	16,501	150,699
- Federal (employment insurance)	22,858	3,913	3,392	30,163

... Not applicable

The expenses under review would result, for the Quebec Government, in revenues of $74.3M in taxes on wages and salaries, $1M in QST and $10.3M in specific taxes.

Similarly, these expenses would provide the Federal Government with revenues of $45.1M in taxes on wages and salaries, $930.8K in GST and $2.3M in taxes and excise duties. The related Quebec and Federal taxes would amount to $150.7M and $30.2M respectively.

1.5.7 Impact on Quebec and Federal Governments' Indirect Taxes per Good and Service

Indirect taxes are unilateral payments made by productive sectors and by the final demand to the various government levels, without any consideration from public authorities. There are two types of indirect taxes: product taxes, and output taxes.

Product taxes are payments made by economic agents when purchasing goods and services. They include QST, GST, Federal excise duties and Quebec specific taxes such as taxes on accommodation and on tobacco. The model tax margins are adjusted to account for input cost refunds received by the productive sectors.

The following table shows the Quebec and Federal indirect taxes broken down according to the most affected goods and services. The total $14.6M taxes assessed by the model are distributed between the Quebec Government ($11.3M) and the Federal Government ($3.3M).

Table 9
Distribution of Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention for year 2015 on Indirect Taxes, per Good and Service

	Indirect taxes		
	Quebec	Federal	Total
Goods and services	2015 $K		
Petroleum and coal products	5,660	1,707	7,367
Financial services and insurance	2,973	194	3,167
Beverages	978	184	1,162
Travels, entertainment, advertising, and promotion	532	504	1,036
Professional and business services	123	249	372
Other goods and services	1,032	416	1,448
Total for goods and services	11,297	3,254	14,552

The following chart helps assess the percentage distribution of indirect taxes per good and service for the major taxed products: petroleum and coal products (50.6%), financial services and insurance (21.8%), beverages (8%), travel, leisure, advertising and promotion (7.1%), professional services and business services (2.6%) and other goods and services (9.9%).

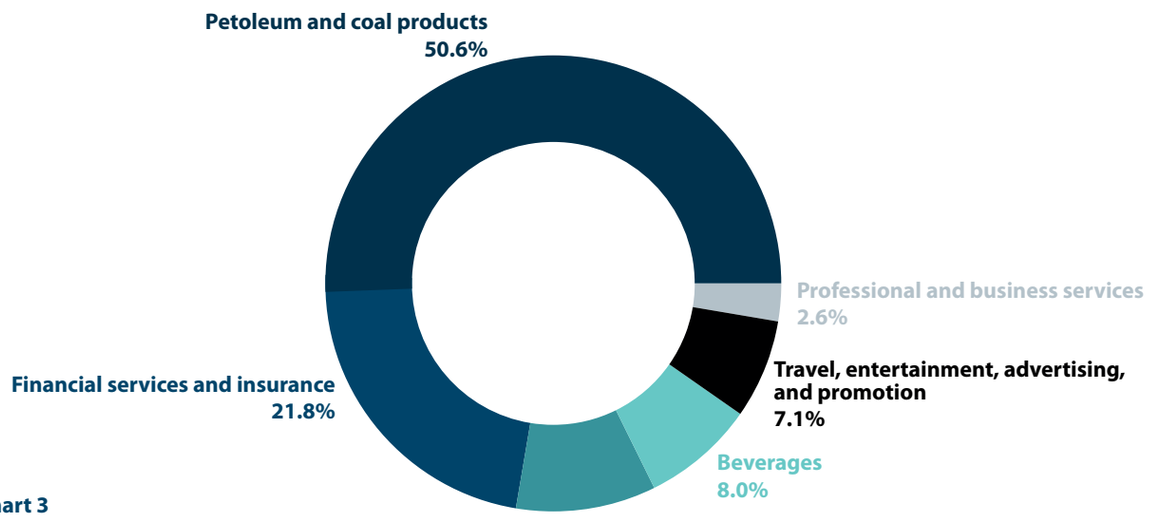

Chart 3
% Distribution of the Economic Impact on Indirect Taxes, per Good and Service

1.5.8 Impact on International and Interprovincial Imports per Good and Service

Imports reflect the amounts paid up in consideration for the foreign goods and services purchased. There are two types of imports: competitive and non-competitive. As mentioned previously, non-competitive imports reflect the foreign product purchases which do not compete with Quebec products.

The results generated by the model help differentiate international imports and imports from other Canadian provinces. Imports are deemed as leaks, as they do not generate any economic activity in Quebec. Similar to indirect taxes, imports on the simulated sector input purchases are shown in the column "Initial suppliers". Imports in the overall other sectors solicited indirectly by the initial choc are for their part recorded in the column "Other suppliers".

The following table shows international imports distributed based on the most affected goods and services. International imports of $375.5M estimated under the model are distributed between the initial suppliers ($235M) and the other suppliers ($140.5M).

Table 10
Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention for Year 2015 on International Imports, per Good and Service

	International imports		
	Initial suppliers	Other suppliers	Total effects
Goods and services	2015 $K		
Chemicals and pharmaceuticals	39,579	17,477	57,057
Paper and allied products	43,208	6,648	49,856
Primary metal products	34,916	8,394	43,310
Professional and business services	22,762	5,765	28,527
Machinery	14,403	9,620	24,023
Other goods and services	80,097	92,629	172,726
Total for goods and services	234,966	140,533	375,499

The following chart helps assess the percentage distribution of international imports based on the main imported products, i.e.: chemical and pharmaceutical products (15.2%), paper and allied products (13.3%), primary metal products (11.5%), professional services and business services (7.6%), machinery (6.4%) and other goods and services (46%).

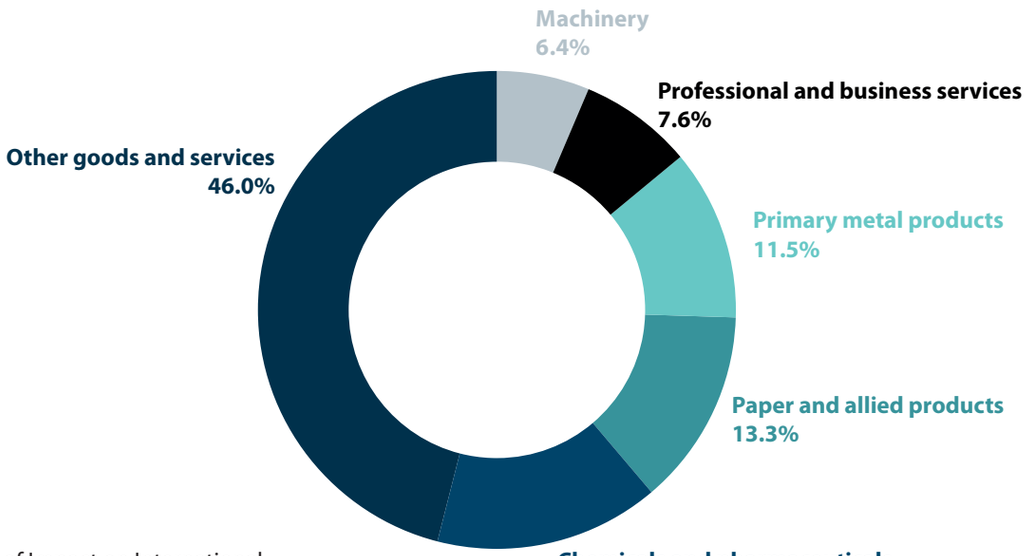

Chart 4
% Distribution of Impact on International Imports, per Good and Service

In turn, the following table shows interprovincial imports distributed based on the most affected goods and services. Interprovincial imports of $295.9M as estimated under the model will be distributed between the initial suppliers ($186.8M) and, indirectly, the other suppliers ($109.2M).

Table 11
Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention for Year 2015 on Interprovincial Imports, per Good and Service

	Interprovincial imports		
	Initial suppliers	Other suppliers	Total effects
Goods and services	2015 $K		
Professional and business services	50,928	13,575	64,503
Paper and allied products	44,293	5,489	49,782
Transportation and warehousing	12,040	8,457	20,496
Primary metal products	17,426	2,733	20,160
Other information services and culture	12,154	5,477	17,631
Other goods and services	49,923	73,448	123,371
Total for goods and services	186,764	109,179	295,943

The following chart helps assess the percentage distribution of interprovincial imports based on the main imported products, i.e.: professional services and businesses (21.8%), paper and allied products (16.8%), transportation and warehousing (6.9%), primary metal products (6.8%), other information and cultural services (6%) and other goods and services (41.7%).

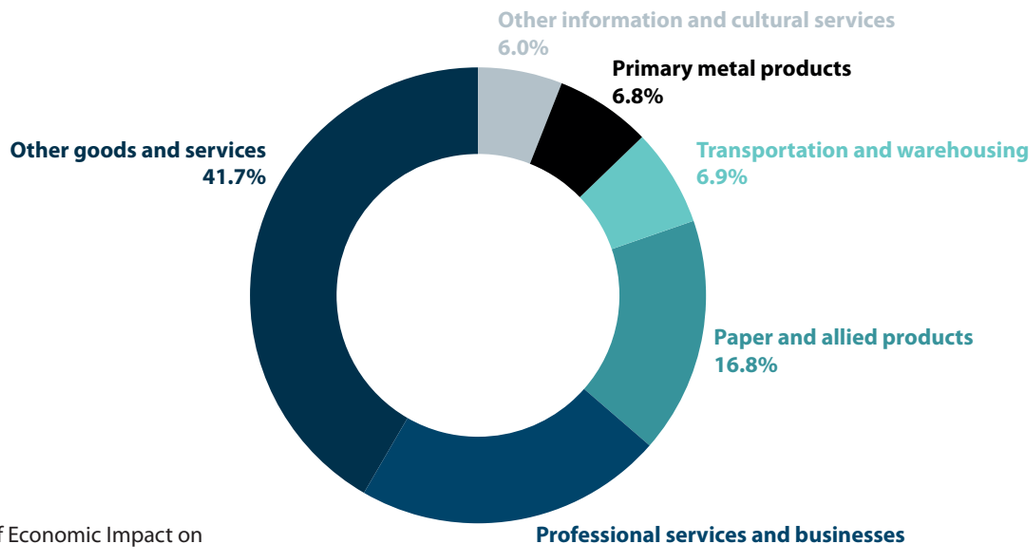

Chart 5
% Distribution of Economic Impact on Interprovincial Imports, per Good and Service


Montréal
115' T-Rex
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2

VALUE OF HUMAN LIVES PRESERVED THROUGH SIM'S INTERVENTIONS IN 2015

Prehospital medical emergency interventions account today for more than half of SIM's interventions. For this study, we have targeted interventions for a cardiopulmonary arrest (CPA), all etiologies combined, during which the victims were resuscitated by first responder (FR) firefighters before they arrived in the hospital centres and survived beyond their hospitalization, without disabling neurological sequels.

In our opinion, this sample constitutes the portion of CPA victims representing the largest economic value, as these individuals return to an active life without any sequels. Although some individuals who have kept disabilities further to a CPA can become active again, this is rather difficult to quantify, as data are not precise enough.

In addition, for the analysis to be even more precise, we could have considered the age of victims. An early child has an economic value higher (paid taxes, consumption taxes, etc.) than a retired individual, for instance. But here again, data are not precise enough to help us make this distinction.

2.1 Value of a Human Life: Literature Overview

The Value of a Statistical Life, or VSL, has been calculated through various methods since 1970, resulting in highly variable findings depending on the studies. This value is often used in the context of government decision-making based on a cost-benefit analysis.

There are two primary recognized methods to calculate the VSL: (1) an approach based on the value of an individual's economic contribution, for instance the discounted value of future net income; and (2) an approach based on a commitment to pay the individuals for a decreased mortality risk. It should be noted that from a methodological standpoint, both approaches are perfectly similar. The second approach is the most widely used in the economic literature and this is the one which has been retained for the CIRANO 2017 study on the implementation of first responders and for this study as well.

It is important to know that the VSL is based on a variation of the risk of death of anonymous individuals. It never considers moral or ethical principles. However, many parameters influence the VSL such as the timing of a study completion, population under review and the methodological framework.

In a meta-analysis, Dionne and Lebeau (2010) attempted to understand the precise VSL variation sources in literature[19]. In the light of this assessment, they then proposed the most accurate VSL estimate in their opinion, i.e. between $5M and $6M (in 2000 dollars). This conclusion is based on the outcomes of the following four studies using, according to them, an optimal methodology:

> Dionne and Lanoie (2004)[20]: A study designed to obtain a VSL in a context of road safety in Quebec. The authors note that their conclusions can also apply to Canada. They use the results of dozens of studies from various countries for their analysis. They also specify the average VSL calculated as part of Canadian studies[21].

> Knieser et al. (2007)[22]: An American study intended to solve econometric problems in connection with VSL estimates from multiple studies.

> Bellavance et al. (2009)[23]: A meta-analysis on VSL using the results of 37 studies completed in nine countries.

> Viscusi (2009)[24]: A study covering 85 women and 383 men who were victims of a homicide in 2009.

2.2 Data Collection

For this study, we have used two sources of annual statistics on prehospital medical emergency interventions: those compiled by Urgences-santé[25] for the Laval[26] and Montreal territories, and those compiled by SIM for the Montreal territory. These include data for CPA victims.

Urgences-santé collects data in a statistical report based on the Utstein model called "Utstein Modified". Initiated in the early 1990s, Utstein is a consensus-based CPA and cardiopulmonary resuscitation manoeuver data compilation and statistics publication.

19 DIONNE, G. and M. LEBEAU (2010). "Le calcul de la valeur statistique d'une vie humaine", *L'actualité économique*, 86(4), pages 487-530. DOI 10.7202/1005680ar.

20 DIONNE, G., and P. LANOIE (2004). "Public Choice about the Value of a Statistical Life for Cost-Benefit Analyses: The Case of Road Safety", *Journal of Transport Economics and Policy*, 38(2), pages 247-274.

21 This outcome is based on seven Canadian studies completed between 1989 and 2000. An eighth study, which was not considered, as it was made with a non-representative sampling, assessed VSL to $22.0M, in 2000 dollars.

22 KNIESNER, T. J., W. K. VISCUSI, C. WOOCK, and J. P. ZILIAK (2007). "Pinning Down the Value of Statistical Life", *IZA Discussion paper*, no. 3107, Institute for the Study of Labor, Bonn, 34 pages.

23 BELLAVANCE, F., G. DIONNE, and M. LEBEAU (2008). "The Value of a Statistical Life: A Meta-Analysis with a Mixed Effects Regression Model", *Journal of Health Economics*, 28(2), pages 444-464. DOI 10.1016/j.jhealeco.2008.10.013.

24 VISCUSI, W. K. (2009). "Valuing Risks of Death from Terrorism and Natural Disasters", *Journal of Risk and Uncertainty*, 38(3), pages 191-213.

25 Urgences-santé is a public organization mandated to provide prehospital emergency services, including ambulance transportation, in the cities of Montreal and Laval. For further details, please review the organization website: [www.urgences-sante.qc.ca/].

26 The City of Laval is located immediately to the North of Montreal. It has its own fire department, but this department does not provide a first responder service.

It helps medical emergency professionals organize or review these data based on a standardized template. This model is used mostly by the Heart and Stroke Foundation of Canada and Quebec, the American Heart Association and the European Resuscitation Council[27]. The Urgences-santé modified version is detailed in Appendix D. Besides, a document released by the Quebec Health and Social Services Department in August 2011 describes the meaning of each data block in the Urgence-santé model[28].

We have therefore correlated the Utstein Urgences-santé modified statistical report data and the 2015 SIM's internal intervention data. The most recent statistical report available to us as part of the study was the April 1, 2013-March 31, 2014, report whereas SIM's data were 2015 data. Since the Utstein modified report covers the period from early April to late March of the following year and that this study covers a full year, i.e. January 1st to December 31, 2015, we have completed an extrapolation of data from the 2013-2014 Utstein modified report to apply them to the full 2015 period.

Besides, since we meant to get the number of CPAs treated on the Montreal agglomeration territory only, which is the territory covered by SIM, and also since Urgences-santé data covers Laval and Montreal, we had to extract from it the proportion of the Montreal population for year 2014. The Montreal agglomeration included 1,915,617 residents[29] in 2014 and Laval included 420,870 residents[30]. We have therefore established the Montreal proportion to 81.98% (82%).

This proportion remains as a minimal data, since there is a constant daily increase in the Montreal agglomeration population and a substantial decrease in the Laval population, which is, over a year, increases the total population covered by SIM's first responders. Incidentally, the proportion of CPA interventions should be higher in the Montreal agglomeration, but it was not included in our study.

Therefore, we have identified 735 CPA interventions for year 2015 in SIM's data. From this number, 77 individuals were resuscitated.

27 CIRCULATION. *Cardiac Arrest and Cardiopulmonary Resuscitation Outcome Reports*, [online], [circ.ahajournals.org/content/110/21/3385] (Reviewed on March 22, 2017).

28 HEALTH AND SOCIAL SERVICES DEPARTMENT. *Plan qualité clinique, énoncés d'assurance de la qualité, indicateurs cliniques, programme d'amélioration continue de la qualité (PACQ) version 2.1* [online], [https://www.urgences-sante.qc.ca/wp-content/uploads/2014/03/Plan-qualité-clinique-Énoncés-d_assurance-de-la-qualité-Indicateurs-cliniques.pdf], page 31(Reviewed on March 22, 2017).

29 INSTITUT DE LA STATISTIQUE DU QUÉBEC. *Bulletin statistique régional : Montréal.* 2014 Edition [online], [www.stat.gouv.qc.ca/statistiques/profils/bulletins/2014/06-Montreal.pdf], page 6 (Reviewed on March 22, 2017).

30 *Ibidem*, page 8

The Urgences-santé Utstein Modified Statistical Report has shown 146 CPA victims who were alive after their hospitalization (20t box). From this number, 53 individuals received their hospital release and exhibited a normal neurologic state (21a box). Bringing these figures back to the 82% proportion for the 2015 Montreal agglomeration, we were therefore left, in our calculations, with a sampling of 119 victims who came out alive from their hospitalization and 43 resuscitated individuals without disabling sequels.

2.3 Overview of VSL Estimates

The following table shows the various VSL estimates in recent literature. These outcomes were adjusted to bring back exhibited values to 2015 dollars.

Table 12
VSL Calculated Under Various Studies

Year	Authors	VSl (2015 $M CAD)*	Coverage
2004	Dionne and Lanoie (2004)	6.6	Multiple
2004	Dionne and Lanoie (2004)	6.2	Canada
2007	Knieser et al. (2007)	9.4 – 12.8	United States
2009	Viscusi (2008)	8.0	United States
2009	Bellavance et al. (2009)	12.1	Multiple

*Inflation-adjusted value in 2015 US dollars, converted into CA dollars based on 2015 average exchange rate, as released by Bank of Canada.

On the basis of these recent estimates, it can be inferred that a VSL interval of 6.2 to $10.0M CAD in 2015 dollars, with an $8.1M CAD medium value would be appropriate for Quebec (or Canada)[31].

Besides, this interval is similar to the one shown in a publication of Canada Policy Horizons, a branch of the Privy Council Office of Canada[32], where the following lower, central and higher values are suggested with respect to the various types of death risks when assessing public policies: $3.5M, $6.5M and $9.5M CAN in 2007 dollars respectively.

31 Inflation for Canada and the USA: THE WORLD BANK. *Inflation, Consumer Prices (annual %)*, [online], [http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG] (Reviewed on March 22, 2017). USD/CAD exchange rate: BANK OF CANADA. *Financial markets department, Year average of exchange rates, Ottawa, 2016, average of 250 days*, [online], [www.bankofcanada.ca/stats/assets/pdf/nraa-2016-en.pdf] (Reviewed on March 22, 2017).

32 CHESTNUT, Lauraine G., and Paul DE CIVITA (2009). *Economic Valuation of Mortality Risk Reduction:: Review and Recommendations for Policy and Regulatory Analysis*, [online], [http://www.horizons.gc.ca/sites/default/files/Publication-alt-format/2009-0012-eng.pdf] (Reviewed on March 22, 2017).

2.4 Application to Lives Saved by SIM

In accordance with the data of the Utstein modified report brought back to the proportions of the population covered by SIM, 43 lives were saved in 2015 thanks to firefighters' interventions. The following table shows the total financial value of these human lives, i.e. between $267M and $430M, calculated using estimates presented in the previous section.

Table 13
Financial Value of Lives Saved by SIM in 2015, in $M

Saved lives	VSL lower limit	VSL median value	VSL higher limit
43	267	348	430

It should be noted that our retained VSL is higher than the one used in the cost-benefit analysis of the CIRANO 2017 study, which is recorded between $1.0M and $2.0M. This estimate seems to be clearly conservative in the light of the studies referred to above and implies that the benefits of human life preservation are significantly underestimated. This issue is discussed more fully in Appendix A.

2.5 Limitations of the Methodology in this Study

The limitations of the methodology used in this study are included in the three following items:

> We assume that all resuscitated victims had a job and returned to work beyond their hospitalization.

> The Utstein modified statistical report does not provide information on the direct effects of FRs' interventions over the decrease of morbidity (hemorrhage control, spinal restraint, etc.). Therefore, the economic impact of this aspect could not be assessed, but it is certainly notable, and therefore, the figures in this study are even more conservative.

> Collected data could not help determine precisely who, in all the prehospital intervention chain, had the most significant effect in the victim resuscitation performed by FRs[33]. Actually, several individuals can perform resuscitation and defibrillation manoeuvers, whether they are citizens or health professionals, before FRs' arrival, the FRs themselves throughout their interventions, or else, the Urgences-santé paramedical ambulance technicians who take over from FRs when providing advanced cardiopulmonary resuscitation care up to the hospital centre.

33 We should note, however, that since the FR service was rolled out in Montreal, the resuscitation rate over the territory has doubled. On the subject, please read the following article: [journalmetro.com/actualites/montreal/414468/les-pompiers-premiers-repondants-depuis-4-ans/].

CONCLUSION

SIM's total budget is not an expense, but rather an investment.

This is the conclusion we have made further to this study. Actually, the findings emphasize the direct impact of SIM's firefighters on the Quebec economic activity. When comparing SIM's operating budget, which amounted to $360.5M in 2015, and the benefits generated by SIM's interventions, i.e. $1.89B, each dollar invested in SIM in 2015 has a demonstrated return on investment of 527.5%.

Through a financial investment in their fire department, the Montreal agglomeration municipal authorities helped SIM have a direct effect of 0.5% on Quebec GDP in 2015. In other words, without SIM's interventions, the Quebec GDP would have been 0.5% lower. The total impact is the preservation of 20,903 jobs. For the reasons mentioned in this report, the figures reflect a conservative estimate, but the findings clearly show that each dollar dedicated to a fire department represents an investment, and not an expense, in addition to enhancing the human and social aspects which are certainly generated through efficient interventions.

For the balance, the QCSM table can indeed relate the experienced physical losses to the total value of properties (buildings and indoor goods) and also to the affected business gross income to determine an economic impact.

We can assert that an optimal response time and striking force of fire forces play in favour of a successful intervention. In addition, a short response time is also the basis of a prehospital intervention chain and is key to the high resuscitation rate of SIM's first responder firefighters since it helps undertake CPR and defibrillation manoeuvers quickly. Therefore, we believe we should go further into the analysis of the cost-benefit relationship in our efforts to reach a minimal response time combined with a maximum staff on the scene of a fire or a prehospital medical emergency.

The methodology used herein only briefly addresses a deep-set trend in the *big data* analysis in organizations, which can result in unsuspected discoveries. However, this study has also emphasized not only the limitations of each methodology used for calculating economic impacts, but also a lack of precision in some data, which hinders the scope, variety and depth of possible analyses. There remains multiple issues to be explored in order to better calculate the economic value of the interventions of SIM and fire departments in general, for example the incorporation of government jobs in the calculations or other types of interventions such as residential building fires, natural gas leaks, highway accidents and various rescues completed by firefighters. Data on the loss of revenues during and after disasters or else indirect costs should also be considered seriously for commercial building fires.

The desired effect of a study like this one is to initiate a change of perception on the social, economic and financial impact of fire departments within communities. This

impact will be even more important with the recently extended range of interventions provided by firefighters.

One of the significant results of this study is the establishment of new benchmarks in the calculation of the firefighters' intervention economic impact. We urge the research organizations, insurance companies and other fire departments to resume the exercise while developing the methodology in order to move to a standard model to help organizations better understand the fundamental role of fire departments and improve services to citizens.


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APPENDIX A
RELATIONSHIPS BETWEEN THIS STUDY AND CIRANO'S PRIOR WORK

As part of recent studies published in 2004 and 2017 and mentioned in the introduction to this report, the Center for Interuniversity Research and Analysis of Organizations (CIRANO)'s economists have completed an *ex post* economic assessment of first responders' service for the Montreal agglomeration.

Since CIRANO's studies and ours are included in the same sphere of activity, it seemed necessary to emphasize the similarities and contrasts.

Relationships with our Analysis of Commercial Building Fires

CIRANO's work is designed to "assign a monetary value to compare the costs and benefits of a program".[34] In their own terms, the purpose is therefore to assess "whether the public service under review translates into a net gain or a net loss".[35] Therefore, they have a firmly microeconomic approach. So doing, they use a tool developed by economists, called "cost-benefit analysis", or CBA.

Our study is rather designed, for commercial building fires, to assess the direct and indirect impacts of a fire department on Quebec economy. Therefore, there is a macroeconomic purpose. So doing, we use another tool developed by economists: the Cross-Sector Model. It can be seen that both approaches are complementary. CIRANO's approach addresses the costs and benefits of specific interventions of first responder's service while our approach addresses the impact in terms of Quebec-wide economic activity.

Relationships with our VSL Analysis

Calculations presented in the second part of our study, to address the value of human lives preserved through the intervention of a fire department can themselves be directly compared with CIRANO's.

The statistical value of a human life (VSL) as calculated in our study is based on an analysis of recent literature on the subject. Basically, our assessment method relies on a willingness to pay individuals and therefore, it measures how much money someone is willing to pay to reduce a death risk during an incident, an activity or in the workplace. When disclosing the amount he would pay to reduce the risk of dying, this individual

34 DE MARCELLIS-WARIN Nathalie, François VAILLANCOURT, Ingrid PEIGNIER, Brigitte BOUCHARD-MILORD and Alain VAILLANCOURT (2017). *Évaluation économique du service de premiers répondants sur le territoire de l'agglomération de Montréal*, Montréal, CIRANO, page 51.

35 *Ibid.*

reveals the value assigned to a life. For example, as stated by Zhang et al. (2012)[36], "if an individual is willing to pay $500 to eliminate a 0.01% risk of death, the implicit VSL for that person is $500 / 0.01% = $5 million".

We should note there is no standard method available to calculate VSL and multiple separate values have been proposed through the studies.

Calculating a VSL through estimating a willingness to pay involves some well-known issues. These include the case where willingness to pay is related directly to the final situation of the surveyed individuals. In other words, the lower the income, the more an individual may assign a lesser value to a reduction of the risk of dying.

Similarly, other factors affect the estimation of the value assigned to life, such as the age of an individual, his happiness level, or else, as demonstrated by Viscusi (2009)[37], the nature of the risk, for example, a death caused by a natural disaster has a much lower value than a death which occurred during a terrorist attack.

That said, in this report, VSL is calculated based on an average willingness to pay in a sampling of workforce members. This is also the approach retained in the CIRANO's 2017 study. This method helps minimize the above impediments while mitigating some of the issues associated with income, population, age and nature of death constraints, which emerge when willingness to pay is defined for an individual. The estimation method for willingness to pay is therefore more appropriate as part of this study. It is also the most widespread method in empirical literature.

A Significant Discrepancy in VSL Outcome

As emphasized in the second part of our report, our VSL assessment is significantly higher than CIRANO's 2017 study. In this latter instance, authors select a VSL interval from $1.0M to $2.0M, which appears markedly conservative in the light of an overview of the literature also presented in Part 2 of our Report. This calculation does not seem to reflect the other recent studies on the subject. Therefore, we consider that the benefits of human life preservation included in CIRANO's 2017 study are significantly underestimated.

36 ZHANG, T. (2011). *Costs of Crime in Canada, 2008*, Ottawa, Department of Justice Canada, 28 pages.

37 VISCUSI, W. K. (2009). "Valuing Risks of Death from Terrorism and Natural Disasters", *Journal of Risk and Uncertainty*, 38(3), pages 191-213.


Sécurité incendie
SIM
Montréal
SUCCION

APPENDIX B
SHOCK MODELLING

This study could assess the economic impact, for the Province of Quebec, of operating expenses for the businesses benefiting from an SIM's intervention for year 2015 (sales preservations adjusted based on effective coverage). This study was completed using the Quebec Cross-Sector Model (QCSM).

The base data were codified by ISQ in accordance with the 2012 schedule of sectors and subsectors of the Quebec Cross-Sector Model database. Appendix F shows the data incorporated in the model.

The following table is a summary of the impact generated on production variables and imports for the simulation under review. Actually, as it was very unlikely that all incidents could affect the sales volume for a full year, we have modelled the shock on this sales volume according to the rules following simple and probable elasticity rules as follows.

Table B1
Shock Modelling

Observed losses in % (2015)	Loss effective coverage in % (2015)
If losses ≤ 1%	Effective losses = 8%
If 1% ≤ losses ≤ 10%	Effective losses = 25%
If 10% ≤ losses ≤ 25%	Effective losses = 40%
If 25% ≤ losses ≤ 75%	Effective losses = 75%
If losses ≥ 75%	Effective losses = 100%

APPENDIX C
TABLES OF RESULTS

The QCSM simulation generated the following 12 tables of results.

Table C1 shows the initial data used in the model based on information provided by the client and adapted to the model requirements. Tables C3 and the following tables show the result calculations through the model from the shock defined in the first table.

Table C2 shows a summary of the direct, indirect and total impacts on labour, value added, wages and salaries, gross mixed income and other gross income before taxes, other outputs, imports and some Quebec and Canada Government revenues. This table also helps show the breakdown of initial expenditures according to total impacts.

Table C1
Distribution of Operating Expenses for Businesses Benefiting from a SIM's Intervention for Year 2015

No.	Code	Goods and services	Intermediate demand 2015 $K
1	bs01	Crop products	4,829
2	bs02	Livestock	0
3	bs03	Other agricultural products	614
4	bs04	Forest products and services	2
5	bs05	Fishing products	1,133
6	bs06	Agriculture and forestry support services	0
7	bs07	Mineral fuels	10,883
8	bs08	Metallic minerals and concentrates	0
9	bs09	Non-metallic minerals	267
10	bs10	Mining and oil and gas extraction support services	0
11	bs11	Public utilities	22,869
12	bs12	Residential construction	0
13	bs13	Non-residential construction	0
14	bs14	Engineering projects	0
15	bs15	Construction, repairs	29,381
16	bs16	Meat, fish and dairy products	5,453
17	bs17	Fruits, vegetables, animal food and others	9,748
18	bs18	Beverages	2,617
19	bs19	Tobacco and related products	0
20	bs20	Textile products	14,761
21	bs21	Clothing, knitting and leather products	35
22	bs22	Wood products	4,237
23	bs23	Paper and allied products	195,094
24	bs24	Printing and publishing	4,482
25	bs25	Petroleum and coal products	21,568
26	bs26	Chemicals and pharmaceuticals	71,639
27	bs27	Rubber and plastic products	18,750
28	bs28	Non-metallic mineral products	1,818
29	bs29	Primary metal products	84,206
30	bs30	Fabricated metal products	5,959
31	bs31	Machinery	25,214
32	bs32	Computer and electronic products	4,764
33	bs33	Electrical equipment and components	1,278
34	bs34	Transportation equipment	2,009
35	bs35	Furniture and furnishings	22
36	bs36	Various manufactured products	31,905
37	bs37	Wholesale trade margin and commissions	666
38	bs38	Retail trade margin and services	81

			Intermediate demand
No.	Code	Goods and services	2015 $K
39	bs39	Transportation and warehousing	48,483
40	bs40	Transportation margin	0
41	bs41	Published and recorded media products	112
42	bs42	Telecommunications	7,086
43	bs43	Information and cultural services	60,901
44	bs44	Financial services and insurance	46,484
45	bs45	Real estate services and rental	50,855
46	bs46	Rent imputed to owner-occupants	0
47	bs47	Professional and business services	218,691
48	bs48	Education services	791
49	bs49	Healthcare and Social assistance	18
50	bs50	Arts, entertainment and recreation	14,921
51	bs51	Accommodation and food services	12
52	bs52	Other services (except public administrations and NPI)	8,315
53	bs53	Other services from non-profit institutions serving households	0
54	bs54	Other public administration services	4,917
55	bs55	Operating and office supplies	69,100
56	bs56	Travel, entertainment, advertising and promotion	44,848
57	bs57	Private financing of non-profit institution services	0
58	bs58	Government financing of public administration sector services	0
		Total expenditures, goods and services	1,151,818
	SAL	Wages and salaries before taxes	645,491
	RMB	Gross mixed income	19,552
	ARB	Other gross income before taxes	425,767
		Total expenditures	2,242,628
	SUB	Subsidies	-74,474
		Total expenditures, net from subsidies	2,168,154
		Labour	2015 person-years
		Salaried workers	15,032.5
		Other workers	670.6

	Goods and services	WSBT+GMI+OGIBT	Subsidies
Source of demand	2015 $K		
Construction, repairs	1,669	1,562	0
Fish and seafood preparation and packaging	1,382	555	-17
Bakeries and tortilla manufacturing	277	160	0
Other food manufacturing	19,763	17,041	-4
Textile and related products plants	260	177	0
Converted paper product manufacturing	320,724	151,978	-22
Printing and related support activities	11,602	11,549	-1
Pharmaceutical and medical product manufacturing	28,223	29,538	-11

Source of demand	Goods and services	WSBT+GMI+OGIBT	Subsidies
	2015 $K		
Paint, coating and adhesive manufacturing	9,006	6,111	0
Plastic product manufacturing	7,715	4,644	0
Boiler, tank and shipping container manufacturing	14	11	0
Spring and wire product manufacturing	65,999	49,001	0
Motor vehicle body and trailer manufacturing	206	94	0
Other miscellaneous manufacturing	56,281	42,072	-6
Wholesale trade	4,254	6,832	0
Retail trade	9,002	15,148	-3
Truck transportation	3,714	2,834	-4
Postal and courier services	204	257	-1
Warehousing and storage	308,079	520,137	0
Other motion picture and video industries	201,428	102,417	-17,714
Non-depository credit intermediation	111	257	0
Lessors of real estate	63	75	0
Landlords and lessors of non-financial intangible assets	31	41	0
Office administrative services	1,236	2,499	0
Waste management and remediation services	3,020	5,839	-19
Schools, except NP and gov.	82	103	-1
Offices of physicians	789	3,392	-41
Miscellaneous ambulatory health care services	16	44	-4
Traveller accommodation	13,512	19,768	-45
Food services and drinking places	11,194	10,587	-188
Automotive repair and maintenance	446	739	0
Personal and laundry services	37	38	0
Other non-profit institutions serving households	1,448	1,230	0
Other federal government public administration	564	1,092	0
Total for confidential sectors	69,467	82,988	-56,393

Reference: 20170120-1-1-2012C-2015C (2015C)

Table C2
Economic Impact of Operating Expenses of Businesses Benefiting from a SIM's Intervention on Quebec for Year 2015

	Direct effects	Indirect effects		Total effect
		Initial suppliers	Other suppliers	
Labour	2015 person-years			
Salaried workers	15,032.5	2,420.1	2,254.0	19,706.6
Other workers	670.6	234.0	290.9	1,195.5
	2015 $K			
Value added at base prices	1,090,810	256,404	208,979	1,556,193
Wages and salaries before taxes	645,491	121,509	102,447	869,447
Gross mixed income	19,552	15,964	15,455	50,971
Other gross income before taxes	425,767	118,931	91,077	635,775
Other productions[1]	…	4,368	2,166	6,534
Subsidies	-74,474	-3,541	-2,552	-80,566
Indirect taxes	…	7,943	6,609	14,552
Imports	…	421,729	249,713	671,442
Quebec government revenues, including:				
- Taxes on wages and salaries	53,639	11,576	9,065	74,280
- Sale taxes	…	294	717	1,010
- Specific taxes	…	6,211	4,076	10,287
Federal government revenues, including:				
- Taxes on wages and salaries	31,881	7,504	5,702	45,087
- Sale taxes	…	90	841	931
- Excise taxes and duties	…	1,348	975	2,324
Related taxation[2]				
- Quebec (QPP, FSS, CNESST, QPIP)	114,675	19,523	16,501	150,699
- Federal (employment insurance)	22,858	3,913	3,392	30,163

1. Decrease of inventories and sales of goods and services in some sectors of final demand.

2. Related taxation includes employer and employee contributions.

... Not applicable

Reference: 20170120-1-1-2012C-2015C (2015C)

Table C3
Distribution of the Impact of Operating Expenses of Businesses Benefiting from a SIM's Intervention on Labour, Compensation and Value Added for Year 2015, per Sector

		Labour		Wages and salaries	Gross mixed income	Value added
		Salaried workers	Others			
No	Sectors	2015 person-years		2015 $K		
1	Agricultural crops	10.9	2.8	401.0	398.4	1,471.1
2	Stockbreeding	8.1	5.5	298.9	411.5	1,164.4
3	Forestry and forest operations	21.3	2.6	1,007.7	288.9	2,524.9
4	Fishing, hunting and trapping	1.4	0.4	62.9	83.7	171.9
5	Agriculture support activities	1.0	0.2	37.0	20.3	86.9
6	Forestry support activities	6.9	0.4	318.1	35.9	531.2
7	Oil and gas extraction	0.0	0.0	0.1	0.0	0.1
8	Metallic mineral mining	1.4	0.0	175.9	0.0	702.4
9	Non-metallic mineral mining	4.4	0.2	247.8	3.1	867.9
10	Support activities for mining and oil and gas extraction	0.3	0.0	27.1	0.4	27.6
	Primary sector	**55.8**	**12.1**	**2,576.3**	**1,242.4**	**7,548.3**
11	Electric power generation, transmission and distribution	59.7	0.0	6,039.8	0.0	34,207.1
12	Other utilities	7.0	0.2	532.8	5.7	2,664.0
	Utilities	**66.6**	**0.2**	**6,572.6**	**5.7**	**36,871.1**
13	Residential construction	0.0	0.0	0.0	0.0	0.0
14	Non-residential construction	0.0	0.0	0.0	0.0	0.0
15	Engineering and transportation projects	0.0	0.0	0.0	0.0	0.0
16	Engineering projects, oil and natural gas	0.0	0.0	0.0	0.0	0.0
17	Electric power engineering construction	0.0	0.0	0.0	0.0	0.0
18	Communication engineering construction	0.0	0.0	0.0	0.0	0.0
19	Other engineering projects	0.0	0.0	0.0	0.0	0.0
20	Construction, repairs	210.7	24.3	11,623.8	2,796.8	20,749.2
21	Other construction activities	4.2	3.7	211.8	418.7	1,845.3
	Construction	**215.0**	**28.0**	**11,835.6**	**3,215.5**	**22,594.4**
22	Animal food manufacturing	2.1	0.0	93.6	3.6	251.6
23	Milled products, cereals and oil seeds	1.7	0.1	78.2	2.4	263.7
24	Sugar and confectionery product manufacturing	1.0	0.1	44.9	0.8	86.1
25	Fruit and vegetable preserving and specialty food manufacturing	1.9	0.0	95.3	0.7	218.8
26	Dairy product manufacturing	10.1	0.2	614.3	4.9	1,169.4
27	Meat product manufacturing	5.5	0.0	250.1	1.1	378.4
28	Fish and seafood preparation and packaging	8.1	0.2	291.5	16.2	641.9
29	Bakeries and tortilla manufacturing	8.8	0.3	316.4	7.3	640.8
30	Other food manufacturing	133.0	0.8	6,241.7	41.6	17,715.5

No	Sectors	Labour		Wages and salaries	Gross mixed income	Value added
		Salaried workers	Others			
		2015 person-years		2015 $K		
31	Soft drink and ice manufacturing	2.3	0.0	123.4	0.0	295.3
32	Alcohol beverages manufacturing	7.4	0.1	447.3	0.3	1,696.0
33	Tobacco manufacturing	0.3	0.0	21.4	0.0	234.2
34	Textile and textile product mills	17.5	0.7	798.1	7.6	1,456.5
35	Clothing and leather product manufacturing	5.8	0.5	201.6	9.9	296.0
36	Sawmills and wood preservation	21.3	0.5	1,191.0	2.4	1,905.2
37	Wood paneling, plywood and particle boards manufacturing	4.7	0.0	224.8	0.4	326.8
38	Other wood product manufacturing	24.2	0.8	989.4	19.9	1,876.2
39	Pulp, paper and paperboard mills	155.2	2.0	10,209.4	1.8	23,658.7
40	Converted paper product manufacturing	1,569.3	14.5	85,967.9	102.7	159,209.8
41	Printing and related support activities	213.1	8.9	9,335.2	164.9	16,887.0
42	Petroleum and coal product manufacturing	4.6	0.0	350.9	0.5	1,989.4
43	Basic chemical manufacturing	3.5	0.0	262.2	0.1	816.6
44	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	2.7	0.0	167.8	0.1	384.8
45	Fertilizer and other agricultural chemical manufacturing	1.9	0.0	96.5	0.0	258.0
46	Pharmaceutical and medicine manufacturing	184.1	0.8	11,990.1	2.2	31,669.8
47	Paint, coating and adhesive manufacturing	38.1	0.7	2,192.9	1.3	7,666.4
48	Soap, cleaning compound and toilet preparation manufacturing	3.9	0.1	195.4	0.3	316.5
49	Other chemical product manufacturing	14.4	0.3	886.1	0.9	1,750.3
50	Plastic product manufacturing	103.0	0.6	4,796.4	5.9	9,626.1
51	Rubber product manufacturing	7.4	0.0	365.1	0.1	620.8
52	Cement and concrete product manufacturing	10.6	0.2	586.2	0.5	1,458.1
53	Other non-metallic mineral product manufacturing	6.5	0.2	337.0	1.0	681.8
54	Iron and steel mills and ferro-alloy manufacturing	12.2	0.2	856.9	3.0	2,021.7
55	Steel product manufacturing from purchased steel	104.9	0.9	6,939.3	28.7	12,618.6
56	Alumina and aluminium production and processing	22.6	0.1	1,619.0	0.2	4,156.8
57	Non-ferrous metal (except aluminum) production and processing	5.1	0.0	347.3	0.1	1,211.6
58	Foundries	1.0	0.0	50.9	0.0	111.7
59	Forging and stamping	5.7	0.0	296.2	1.4	498.9
60	Plate work and fabricated structural product manufacturing	21.2	0.2	1,103.9	1.9	1,908.3
61	Boiler, tank and shipping container manufacturing	3.6	0.0	210.2	0.5	286.6

No	Sectors	Labour: Salaried workers	Labour: Others	Wages and salaries	Gross mixed income	Value added
		2015 person-years		2015 $K		
62	Hardware manufacturing	0.3	0.0	10.7	0.0	17.3
63	Spring and wire product manufacturing	619.5	1.8	27,427.0	89.1	49,072.6
64	Machine shops	14.2	0.6	697.0	14.6	1,187.2
65	Coating, engraving, cold and heat treating and allied activities	11.5	0.4	541.4	1.2	894.4
66	Other fabricated metal product manufacturing	6.2	0.2	350.4	2.7	667.0
67	Agricultural, construction and mining machinery manufacturing	4.1	0.0	227.5	0.2	425.9
68	Industrial machinery manufacturing	3.7	0.0	194.2	0.1	328.2
69	Commercial and service industry machinery manufacturing	18.2	0.3	1,252.7	0.5	2,146.0
70	Heating equipment and commercial refrigeration equipment manufacturing	3.9	0.0	185.8	0.1	329.8
71	Metalworking machinery manufacturing	2.4	0.0	113.0	0.2	181.6
72	Engine and power transmission equipment manufacturing	0.6	0.0	44.1	0.0	72.0
73	Other general-purpose machinery manufacturing	5.6	0.1	297.2	1.1	508.8
74	Computer and peripheral equipment manufacturing	0.3	0.0	20.8	0.7	31.6
75	Communications equipment manufacturing	2.2	0.0	153.4	1.3	301.9
76	Semiconductor and other electronic component manufacturing	1.0	0.0	57.1	0.5	89.3
77	Other electronic product manufacturing	7.3	0.1	504.1	6.6	753.5
78	Electric lighting equipment manufacturing	1.0	0.0	49.3	0.1	92.2
79	Household appliance manufacturing	0.3	0.0	18.0	0.0	35.3
80	Electrical equipment manufacturing	4.3	0.0	297.6	0.2	522.0
81	Other electrical equipment and component manufacturing	4.3	0.0	260.5	1.3	473.2
82	Motor vehicle manufacturing	0.6	0.0	37.0	0.0	63.8
83	Motor vehicle body and trailer manufacturing	2.3	0.0	117.2	0.1	186.3
84	Motor vehicle parts manufacturing	1.6	0.0	67.7	0.2	152.1
85	Aerospace product and part manufacturing		0.1	3,121.3	0.6	6,672.9
86	Railroad rolling stock manufacturing		0.0	12.8	0.0	28.5
87	Ship and boat building	3.8	0.1	189.2	0.4	264.3
88	Other transportation equipment manufacturing	5.3	0.0	298.1	0.4	616.5
89	Household and institutional furniture manufacturing	8.1	0.9	310.5	6.5	465.8
90	Office furniture (including fixtures) manufacturing	1.3	0.0	56.1	0.4	89.4
91	Other furniture-related product manufacturing	0.0	0.0	1.9	0.0	2.8

No	Sectors	Labour: Salaried workers	Labour: Others	Wages and salaries	Gross mixed income	Value added
		2015 person-years		2015 $K		
92	Medical equipment and supplies manufacturing	1.9	0.1	88.4	0.3	173.7
93	Other miscellaneous manufacturing	627.1	50.0	26,587.3	1,012.3	44,971.7
	Manufacturing	**4,157.4**	**89.1**	**214,775.0**	**1,579.1**	**421,077.9**
94	Wholesale trade	359.1	12.1	19,838.3	419.3	36,580.2
95	Retail trade	814.0	25.7	22,062.8	1,815.3	33,808.5
96	Air transportation	15.7	0.4	896.1	19.7	2,311.4
97	Rail transportation	32.4	0.0	2,520.4	0.4	5,916.5
98	Water transportation	10.2	0.4	708.2	15.2	1,122.7
99	Truck transportation	183.2	16.8	8,074.1	1,011.7	14,175.0
100	Urban transit systems	872.6	5.5	49,331.0	2.0	71,113.0
101	Taxi and limousine service	3.7	12.5	86.2	258.5	392.2
102	Other transit and passenger transportation services	5.8	0.3	191.4	19.3	356.8
103	Pipeline transportation	0.3	0.0	31.6	0.0	511.0
104	Support activities for transportation	59.6	5.1	3,321.1	25.6	7,326.5
105	Postal and courier services	61.7	7.9	2,963.9	175.5	4,614.9
106	Warehousing	8,322.9	178.9	322,004.5	3,504.9	523,554.0
107	Newspaper publishers	19.9	0.8	1,287.1	11.5	2,182.7
108	Other publishers	12.0	1.9	738.7	26.8	1,505.2
109	Software publishers	4.0	0.0	369.5	1.5	529.5
110	Motion picture and video exhibition	5.5	0.4	109.6	4.6	207.7
111	Other motion picture and video industries	1,275.8	404.2	71,348.2	11,118.5	113,248.9
112	Sound recording industries	2.7	2.1	159.4	60.9	328.7
113	Broadcasting, except Internet	16.9	0.0	988.9	0.0	1,579.7
114	Pay and specialty television	2.6	0.0	149.0	0.2	410.4
115	Telecommunications	30.2	0.7	2,119.2	42.7	7,688.6
116	Data processing and hosting	1.8	0.5	116.4	27.6	209.5
117	Other information services	2.9	0.8	164.6	71.4	260.4
118	Non-depository credit intermediation	146.4	0.0	7,699.3	0.0	14,787.4
119	Insurance carriers	26.0	0.0	1,850.7	0.0	5,865.1
120	Agencies, brokerages and other insurance related activities	23.3	7.2	1,405.6	291.8	2,330.6
121	Other financial activities	35.1	7.1	2,706.3	331.8	4,299.6
122	Lessors of real estate	32.6	6.8	1,129.2	6,086.4	20,524.4
123	Offices of real estate agents and brokers and activities related to real estate	11.4	10.3	572.7	585.4	1,598.0
124	Owner-occupants of housing	0.0	0.0	0.0	0.0	0.0
125	Lessors of non-financial intangible assets and landlords	10.5	0.5	445.3	25.3	2,539.3
126	Other rental and leasing services	30.9	1.2	1,233.6	22.8	3,208.0

No	Sectors	Labour: Salaried workers	Labour: Others	Wages and salaries	Gross mixed income	Value added
		2015 person-years		2015 $K		
127	Lessors of non-financial intangible assets	0.2	0.0	8.1	0.0	70.6
128	Legal services	30.1	8.1	1,604.1	3,371.4	4,929.1
129	Accounting, bookkeeping and payroll services	33.2	14.1	1,786.3	1,520.6	3,698.6
130	Architectural, engineering and related services	58.2	4.3	3,914.8	338.2	6,482.7
131	Computer systems design and related services	48.4	5.2	3,411.0	103.3	5,589.0
132	Management, scientific, and technical consulting services	25.1	14.5	1,510.1	744.6	2,958.4
133	Scientific research and development services	10.3	0.3	687.3	7.0	949.9
134	Advertising and related services	34.4	10.5	1,946.3	257.7	2,816.8
135	Other professional, scientific and technical services	36.6	26.1	1,491.6	1,195.9	2,906.6
136	Holding companies	149.3	0.0	9,182.0	0.0	10,974.8
137	Office administrative services	159.3	5.2	9,018.0	50.3	11,597.7
138	Employment services	164.2	3.8	5,067.7	147.6	6,303.7
139	Business support services	69.8	17.8	2,722.6	73.2	3,981.9
140	Travel arrangement and reservation services	42.4	1.3	1,565.9	196.9	1,887.7
141	Investigation and security services	35.5	0.9	1,153.9	3.9	1,365.9
142	Services to buildings and dwellings	94.6	71.1	2,669.6	1,407.9	4,967.9
143	Facilities and other support services	95.3	3.3	3,640.4	436.1	12,658.9
144	Waste management and remediation services	89.7	6.0	4,355.8	66.4	10,753.5
145	Schools, except NP and government	14.9	7.9	405.6	121.7	631.1
146	Offices of physicians	9.6	8.6	452.2	3,483.8	4,791.9
147	Offices of dentists	0.3	0.0	13.2	15.9	39.9
148	Miscellaneous ambulatory health care services	3.8	3.1	160.4	182.5	414.7
149	Nursing and residential care facilities	0.8	0.1	30.6	1.3	40.2
150	Social assistance	0.8	1.4	26.9	33.3	75.9
151	Performing arts, spectator sports and related industries, and heritage institutions	74.8	57.7	3,034.2	2,511.9	6,445.3
152	Gambling industries	0.6	0.0	33.0	0.2	57.4
153	Other amusement and recreation industries	25.4	1.1	615.8	9.4	1,057.6
154	Traveller accommodation	432.4	4.0	13,128.2	461.1	23,070.5
155	RV parks, recreational camps, rooming and boarding houses	1.9	0.1	48.1	27.7	137.9
156	Food services and drinking places	564.7	15.3	11,939.4	405.3	15,121.3
157	Automotive repair and maintenance	87.7	27.0	3,066.2	790.7	6,207.4
158	Other repairs and maintenance	75.0	22.5	3,283.8	720.6	5,176.3
159	Personal care and cleaning services	15.7	14.8	397.0	265.3	994.8
160	Grant-making, civic, and professional and similar organizations	32.7	0.0	1,212.6	0.0	1,221.4
161	Private households	0.0	0.0	0.0	0.0	0.0

No	Sectors	Labour		Wages and salaries	Gross mixed income	Value added
		Salaried workers	Others			
		2015 person-years		2015 $K		
	Other services	**14,949.6**	**1,066.0**	**620,206.0**	**44,928.2**	**1,045,464.1**
162	Education, NPI	2.8	0.0	112.0	0.0	133.8
163	Ambulatory health care, NPI	0.2	0.0	8.5	0.0	10.0
164	Social assistance, NPI	2.6	0.0	74.9	0.0	88.3
165	Arts, entertainment and recreation, NPI	1.8	0.0	57.8	0.0	72.3
166	Religious organizations	4.1	0.0	112.9	0.0	144.3
167	Other non-profit institutions serving households	43.9	0.0	1,497.7	0.0	1,783.1
168	Public elementary and secondary educational institutions	4.8	0.0	211.3	0.0	281.4
169	Public college educational institutions	5.1	0.0	276.4	0.0	370.2
170	Universities	9.5	0.0	517.8	0.0	1,074.5
171	Other public educational institutions	0.0	0.0	0.0	0.0	0.0
172	Hospitals	19.1	0.0	1,018.5	0.0	1,343.6
173	Public residential care facilities	0.5	0.0	17.2	0.0	21.3
174	Defence services	1.7	0.0	95.4	0.0	142.3
175	Other federal government public administration	41.9	0.0	3,224.3	0.0	5,039.1
176	Other provincial public administration	45.2	0.0	2,666.6	0.0	4,762.3
177	Other local public administration	78.9	0.0	3,589.9	0.0	7,370.4
178	Other aboriginal public administration	0.0	0.0	0.0	0.0	0.0
	Non-commercial sectors	**262.1**	**0.0**	**13,481.1**	**0.0**	**22,636.9**
	Total for sectors	19,706.6	1,195.5	869,446.7	50,971.0	1,556,192.7

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C4
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Imports for Year 2015, per Good and Service

No	Code	Goods and services	Initial suppliers	Other suppliers	Total effects
			2015 $K		
1	bs01	Crop products	2,722.0	1,480.8	4,202.8
2	bs02	Livestock	0.0	132.7	132.7
3	bs03	Other agricultural products	241.6	70.7	312.3
4	bs04	Forest products and services	0.2	1,133.9	1,134.1
5	bs05	Fishing products	701.3	126.7	828.0
6	bs06	Agriculture and forestry support services	0.0	327.0	327.0
7	bs07	Mineral fuels	6,334.5	22,854.7	29,189.2
8	bs08	Metallic minerals and concentrates	0.0	2,042.0	2,042.0
9	bs09	Non-metallic minerals	144.2	960.8	1,105.0
10	bs10	Mining and oil and gas extraction support services	0.0	71.7	71.7
11	bs11	Public utilities	414.5	348.2	762.7
12	bs12	Residential construction	0.0	0.0	0.0
13	bs13	Non-residential construction	0.0	0.0	0.0
14	bs14	Engineering projects	0.0	0.0	0.0
15	bs15	Construction, repairs	0.0	0.0	0.0
16	bs16	Meat, fish and dairy products	2,699.6	2,043.4	4,743.1
17	bs17	Fruits, vegetables, animal food and others	4,707.1	3,103.6	7,810.7
18	bs18	Beverages	730.8	1,677.0	2,407.8
19	bs19	Tobacco and related products	0.0	19.6	19.6
20	bs20	Textile products	9,169.9	1,473.3	10,643.1
21	bs21	Clothing, knitting and leather products	24.9	1,313.2	1,338.1
22	bs22	Wood products	900.9	3,349.5	4,250.4
23	bs23	Paper and allied products	87,501.4	12,136.7	99,638.2
24	bs24	Printing and publishing	1,200.6	2,194.4	3,395.0
25	bs25	Petroleum and coal products	4,178.9	9,285.1	13,464.0
26	bs26	Chemicals and pharmaceuticals	50,692.0	23,129.0	73,821.0
27	bs27	Rubber and plastic products	11,416.4	6,976.5	18,392.9
28	bs28	Non-metallic mineral products	828.6	1,565.9	2,394.6
29	bs29	Primary metal products	52,342.7	11,127.4	63,470.1
30	bs30	Fabricated metal products	2,453.5	8,544.3	10,997.8
31	bs31	Machinery	16,251.1	10,604.4	26,855.4
32	bs32	Computer and electronic products	4,078.1	5,096.4	9,174.6
33	bs33	Electrical equipment and components	991.5	8,481.9	9,473.4
34	bs34	Transportation equipment	1,680.9	10,868.3	12,549.2
35	bs35	Furniture and furnishings	4.5	47.8	52.4
36	bs36	Various manufactured products	16,960.5	3,524.5	20,485.0
37	bs37	Wholesale trade margin and commissions	351.2	17,211.6	17,562.7

No	Code	Goods and services	Initial suppliers	Other suppliers	Total effects
			2015 $K		
38	bs38	Retail trade margin and services	0.3	1,406.9	1,407.1
39	bs39	Transportation and warehousing	13,695.5	12,771.4	26,466.9
40	bs40	Transportation margin	0.0	11,218.9	11,218.9
41	bs41	Published and recorded media products	42.1	1,318.2	1,360.3
42	bs42	Telecommunications	1,448.6	1,579.3	3,027.9
43	bs43	Information and cultural services	60,901.0	9,107.4	38,748.5
44	bs44	Financial services and insurance	46,484.0	6,472.2	14,866.0
45	bs45	Real estate services and rental	50,855.0	5,323.8	12,464.8
46	bs46	Rent imputed to owner-occupants	0.0	0.0	0.0
47	bs47	Professional and business services	218,691.0	19,340.3	93,029.9
48	bs48	Education services	791.0	25.8	36.8
49	bs49	Healthcare and Social assistance	18.0	57.7	59.2
50	bs50	Arts, entertainment and recreation	14,921.0	1,311.6	8,716.8
51	bs51	Accommodation and food services	12.0	4,385.7	4,386.9
52	bs52	Other services (except public administrations and NPI)	8,315.0	2,063.4	2,567.0
53	bs53	Other services from non-profit institutions serving households	0.0	0.0	0.0
54	bs54	Other public administration services	4,917.0	7.1	38.6
55	bs55	Operating and office supplies	69,100.0	0.0	0.0
56	bs56	Travel, entertainment, advertising and promotion	44,848.0	0.0	0.0
57	bs57	Private financing of non-profit institution services	0.0	0.0	0.0
58	bs58	Government financing of public administration sector services	0.0	0.0	0.0
		Total for goods and services	421,729.3	249,712.7	671,442.0

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C5
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Indirect Taxes and Other Outputs for Year 2015, per Good and Service

			Indirect Taxes		Other productions
			Quebec	Federal	
No.	Code	Goods and services	2015 $K		
1	bs01	Crop products	0.0	0.0	111.8
2	bs02	Livestock	0.0	0.0	10.4
3	bs03	Other agricultural products	0.1	0.0	11.8
4	bs04	Forest products and services	0.0	0.0	0.3
5	bs05	Fishing products	0.0	0.0	1.9
6	bs06	Agriculture and forestry support services	0.0	0.0	0.0
7	bs07	Mineral fuels	253.7	14.8	5.5
8	bs08	Metallic minerals and concentrates	0.0	0.0	0.7
9	bs09	Non-metallic minerals	3.1	0.1	48.6
10	bs10	Mining and oil and gas extraction support services	0.0	0.0	0.0
11	bs11	Public utilities	267.0	27.3	0.0
12	bs12	Residential construction	0.0	0.0	0.0
13	bs13	Non-residential construction	0.0	0.0	0.0
14	bs14	Engineering projects	0.0	0.0	0.0
15	bs15	Construction, repairs	48.2	104.0	0.0
16	bs16	Meat, fish and dairy products	0.0	0.0	29.0
17	bs17	Fruits, vegetables, animal food and others	0.0	0.0	58.8
18	bs18	Beverages	977.5	184.3	23.0
19	bs19	Tobacco and related products	0.0	0.0	3.4
20	bs20	Textile products	0.2	0.1	26.8
21	bs21	Clothing, knitting and leather products	2.9	0.0	6.7
22	bs22	Wood products	0.0	0.0	259.9
23	bs23	Paper and allied products	0.1	0.1	1,897.1
24	bs24	Printing and publishing	0.5	3.4	0.0
25	bs25	Petroleum and coal products	5,659.9	1,707.0	713.7
26	bs26	Chemicals and pharmaceuticals	6.7	0.9	612.8
27	bs27	Rubber and plastic products	15.9	0.1	176.4
28	bs28	Non-metallic mineral products	0.4	0.0	70.9
29	bs29	Primary metal products	0.2	0.1	2,050.8
30	bs30	Fabricated metal products	1.1	0.1	89.5
31	bs31	Machinery	0.2	0.1	158.3
32	bs32	Computer and electronic products	0.3	0.4	4.5
33	bs33	Electrical equipment and components	0.1	0.0	54.9
34	bs34	Transportation equipment	1.3	0.5	70.9
35	bs35	Furniture and furnishings	0.0	0.0	0.0
36	bs36	Various manufactured products	1.4	0.8	34.1

No.	Code	Goods and services	Indirect Taxes		Other productions
			Quebec	Federal	
			2015 $K		
37	bs37	Wholesale trade margin and commissions	0.0	0.0	0.0
38	bs38	Retail trade margin and services	0.0	0.0	0.0
39	bs39	Transportation and warehousing	21.3	29.8	0.0
40	bs40	Transportation margin	0.0	0.0	0.0
41	bs41	Published and recorded media products	0.5	0.2	1.2
42	bs42	Telecommunications	118.0	32.6	0.0
43	bs43	Information and cultural services	60,901	40.2	0.0
44	bs44	Financial services and insurance	46,484	194.3	0.0
45	bs45	Real estate services and rental	50,855	109.5	0.0
46	bs46	Rent imputed to owner-occupants	0	0.0	0.0
47	bs47	Professional and business services	218,691	249.1	0.0
48	bs48	Education services	791	1.2	0.0
49	bs49	Healthcare and Social assistance	18	0.0	0.0
50	bs50	Arts, entertainment and recreation	14,921	0.9	0.0
51	bs51	Accommodation and food services	12	8.6	0.0
52	bs52	Other services (except public administrations and NPI)	8,315	22.8	0.0
53	bs53	Other services from non-profit institutions serving households	0.0	0.0	0.0
54	bs54	Other public administration services	4,917	0.3	0.0
55	bs55	Operating and office supplies	69,100	17.0	0.0
56	bs56	Travel, entertainment, advertising and promotion	44,848	503.8	0.0
57	bs57	Private financing of non-profit institution services	0.0	0.0	0.0
58	bs58	Government financing of public administration sector services	0.0	0.0	0.0
		Total for goods and services	11,297.4	3,254.3	6,533.7

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C6
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Salaried Workers, Compensation and Value Added for Year 2015, per Sector

	Labour: salaried workers				Wages and salaries before taxes			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
1	0.0	4.6	6.3	10.9	0.0	169.7	231.2	401.0
2	0.0	0.6	7.5	8.1	0.0	22.9	276.0	298.9
3	0.0	0.6	20.7	21.3	0.0	29.8	978.0	1,007.7
4	0.0	1.2	0.2	1.4	0.0	53.4	9.5	62.9
5	0.0	0.0	1.0	1.0	0.0	0.0	37.0	37.0
6	0.0	0.0	6.8	6.9	0.0	2.2	315.9	318.1
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
8	0.0	0.3	1.2	1.4	0.0	32.8	143.1	175.9
9	0.0	0.4	4.0	4.4	0.0	21.7	226.1	247.8
10	0.0	0.0	0.3	0.3	0.0	0.0	27.1	27.1
Primary sector	**0.0**	**7.8**	**48.0**	**55.8**	**0.0**	**332.5**	**2,243.8**	**2,576.3**
11	0.0	35.4	24.2	59.7	0.0	3,585.1	2,454.7	6,039.8
12	0.0	0.5	6.5	7.0	0.0	36.9	495.9	532.8
Public services	**0.0**	**35.9**	**30.7**	**66.6**	**0.0**	**3,622.0**	**2,950.6**	**6,572.6**
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	15.9	144.4	50.5	210.7	875.0	7,964.0	2,784.9	11,623.8
21	0.0	2.6	1.6	4.2	0.0	129.2	82.5	211.8
Construction	**15.9**	**146.9**	**52.1**	**215.0**	**875.0**	**8,093.2**	**2,867.4**	**11,835.6**
22	0.0	0.5	1.6	2.1	0.0	22.1	71.5	93.6
23	0.0	0.7	1.0	1.7	0.0	32.7	45.6	78.2
24	0.0	0.7	0.3	1.0	0.0	32.8	12.2	44.9
25	0.0	1.0	0.9	1.9	0.0	48.7	46.5	95.3
26	0.0	8.0	2.1	10.1	0.0	487.3	127.0	614.3
27	0.0	3.5	2.0	5.5	0.0	157.3	92.9	250.1
28	7.0	0.5	0.6	8.1	252.0	18.4	21.1	291.5
29	2.2	3.6	3.0	8.8	79.0	128.0	109.5	316.4
30	127.9	2.7	2.4	133.0	6,004.0	126.8	110.8	6,241.7
31	0.0	1.2	1.1	2.3	0.0	64.5	58.9	123.4
32	0.0	3.4	4.0	7.4	0.0	206.5	240.8	447.3

	Labour: salaried workers				Wages and salaries before taxes			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
33	0.0	0.2	0.1	0.3	0.0	11.0	10.3	21.4
34	2.1	11.4	4.0	17.5	97.0	519.5	181.6	798.1
35	0.0	1.2	4.6	5.8	0.0	41.7	159.9	201.6
36	0.0	1.8	19.5	21.3	0.0	103.3	1,087.7	1,191.0
37	0.0	2.8	1.9	4.7	0.0	134.3	90.4	224.8
38	0.0	14.9	9.2	24.2	0.0	611.9	377.5	989.4
39	0.0	143.6	11.6	155.2	0.0	9,447.7	761.7	10,209.4
40	1,498.0	60.8	10.4	1,569.3	82,063.0	3,332.9	572.0	85,967.9
41	145.7	27.7	39.7	213.1	6,384.0	1,212.1	1,739.1	9,335.2
42	0.0	2.3	2.3	4.6	0.0	178.2	172.7	350.9
43	0.0	1.6	2.0	3.5	0.0	117.1	145.0	262.2
44	0.0	1.9	0.8	2.7	0.0	117.5	50.3	167.8
45	0.0	0.2	1.7	1.9	0.0	12.5	84.1	96.5
46	171.7	6.9	5.5	184.1	11,183.0	450.9	356.1	11,990.1
47	30.4	4.4	3.3	38.1	1,748.0	255.3	189.5	2,192.9
48	0.0	1.3	2.6	3.9	0.0	65.9	129.4	195.4
49	0.0	9.0	5.4	14.4	0.0	555.1	331.1	886.1
50	49.7	30.7	22.5	103.0	2,314.0	1,431.8	1,050.6	4,796.4
51	0.0	2.8	4.6	7.4	0.0	137.7	227.4	365.1
52	0.0	4.9	5.7	10.6	0.0	268.4	317.8	586.2
53	0.0	2.5	4.0	6.5	0.0	131.6	205.4	337.0
54	0.0	10.7	1.5	12.2	0.0	749.4	107.5	856.9
55	102.5	2.1	0.3	104.9	6,780.0	139.1	20.1	6,939.3
56	0.0	17.7	5.0	22.6	0.0	1,264.6	354.4	1,619.0
57	0.0	2.7	2.4	5.1	0.0	184.9	162.3	347.3
58	0.0	0.0	1.0	1.0	0.0	2.1	48.8	50.9
59	0.0	3.6	2.1	5.7	0.0	186.8	109.5	296.2
60	0.0	8.6	12.7	21.2	0.0	444.9	659.0	1,103.9
61	0.1	0.4	3.1	3.6	8.0	24.1	178.1	210.2
62	0.0	0.1	0.2	0.3	0.0	4.2	6.5	10.7
63	618.6	0.3	0.6	619.5	27,387.0	14.6	25.4	27,427.0
64	0.0	4.3	9.9	14.2	0.0	212.6	484.4	697.0
65	0.0	8.7	2.8	11.5	0.0	409.0	132.4	541.4
66	0.0	2.6	3.6	6.2	0.0	147.9	202.6	350.4
67	0.0	0.8	3.4	4.1	0.0	42.4	185.0	227.5
68	0.0	1.5	2.2	3.7	0.0	79.4	114.8	194.2
69	0.0	14.6	3.6	18.2	0.0	1,007.0	245.8	1,252.7
70	0.0	0.3	3.7	3.9	0.0	13.3	172.5	185.8

	Labour: salaried workers				Wages and salaries before taxes			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
71	0.0	0.4	1.9	2.4	0.0	21.1	91.9	113.0
72	0.0	0.0	0.5	0.6	0.0	3.3	40.8	44.1
73	0.0	2.6	3.0	5.6	0.0	138.9	158.3	297.2
74	0.0	0.1	0.2	0.3	0.0	5.8	15.0	20.8
75	0.0	0.9	1.2	2.2	0.0	67.0	86.5	153.4
76	0.0	0.6	0.4	1.0	0.0	35.3	21.8	57.1
77	0.0	2.3	5.1	7.3	0.0	155.5	348.7	504.1
78	0.0	0.0	1.0	1.0	0.0	0.9	48.4	49.3
79	0.0	0.1	0.3	0.3	0.0	2.8	15.2	18.0
80	0.0	0.2	4.1	4.3	0.0	13.2	284.4	297.6
81	0.0	2.4	1.9	4.3	0.0	145.8	114.7	260.5
82	0.0	0.1	0.5	0.6	0.0	4.2	32.8	37.0
83	1.2	0.3	0.8	2.3	59.0	16.0	42.2	117.2
84	0.0	0.5	1.1	1.6	0.0	19.8	47.8	67.7
85	0.0	38.0	6.1	44.2	0.0	2,686.7	434.7	3,121.3
86	0.0	0.0	0.2	0.2	0.0	0.1	12.7	12.8
87	0.0	3.2	0.5	3.8	0.0	161.7	27.4	189.2
88	0.0	1.5	3.8	5.3	0.0	85.3	212.7	298.1
89	0.0	4.9	3.2	8.1	0.0	186.8	123.7	310.5
90	0.0	0.6	0.7	1.3	0.0	25.7	30.5	56.1
91	0.0	0.0	0.0	0.0	0.0	0.6	1.4	1.9
92	0.0	0.5	1.3	1.9	0.0	25.6	62.8	88.4
93	586.7	27.8	12.7	627.1	24,873.0	1,177.8	536.5	26,587.3
Manufacturing	**3,343.8**	**525.0**	**288.7**	**4,157.4**	**169,231.0**	**30,367.8**	**15,176.3**	**214,775.0**
94	67.1	47.2	244.8	359.1	3,705.0	2,605.2	13,528.1	19,838.3
95	364.7	209.9	239.4	814.0	9,885.0	5,688.6	6,489.2	22,062.8
96	0.0	0.7	15.0	15.7	0.0	39.9	856.2	896.1
97	0.0	17.0	15.4	32.4	0.0	1,320.1	1,200.2	2,520.4
98	0.0	7.0	3.2	10.2	0.0	488.1	220.1	708.2
99	36.6	65.0	81.5	183.2	1,614.0	2,865.6	3,594.5	8,074.1
100	867.0	3.4	2.2	872.6	49,016.0	191.5	123.5	49,331.0
101	0.0	0.2	3.5	3.7	0.0	4.3	81.9	86.2
102	0.0	2.7	3.2	5.8	0.0	87.2	104.2	191.4
103	0.0	0.0	0.3	0.3	0.0	0.2	31.4	31.6
104	0.0	31.8	27.8	59.6	0.0	1,770.3	1,550.8	3,321.1
105	3.4	34.4	23.8	61.7	165.0	1,654.1	1,144.8	2,963.9
106	8,268.6	48.3	6.1	8,322.9	319,903.0	1,867.1	234.5	322,004.5
107	0.0	4.1	15.8	19.9	0.0	266.5	1,020.6	1,287.1

	Labour: salaried workers				Wages and salaries before taxes			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
108	0.0	1.6	10.4	12.0	0.0	98.1	640.7	738.7
109	0.0	0.6	3.4	4.0	0.0	53.2	316.2	369.5
110	0.0	3.9	1.6	5.5	0.0	78.0	31.6	109.6
111	1,153.8	107.2	14.8	1,275.8	64,524.0	5,995.9	828.3	71,348.2
112	0.0	2.4	0.4	2.7	0.0	139.1	20.3	159.4
113	0.0	6.3	10.5	16.9	0.0	371.6	617.4	988.9
114	0.0	0.2	2.4	2.6	0.0	9.0	140.0	149.0
115	0.0	14.7	15.5	30.2	0.0	1,031.3	1,087.8	2,119.2
116	0.0	0.5	1.3	1.8	0.0	34.7	81.7	116.4
117	0.0	0.0	2.9	2.9	0.0	1.6	163.0	164.6
118	2.5	82.6	61.3	146.4	134.0	4,343.0	3,222.4	7,699.3
119	0.0	17.1	8.9	26.0	0.0	1,217.1	633.5	1,850.7
120	0.0	0.1	23.2	23.3	0.0	6.8	1,398.8	1,405.6
121	0.0	16.9	18.2	35.1	0.0	1,306.3	1,400.1	2,706.3
122	0.1	22.3	10.1	32.6	4.0	773.7	351.5	1,129.2
123	0.0	5.0	6.4	11.4	0.0	250.9	321.8	572.7
124	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	0.2	6.4	3.9	10.5	7.0	272.2	166.1	445.3
126	0.0	15.8	15.1	30.9	0.0	631.5	602.1	1,233.6
127	0.0	0.1	0.1	0.2	0.0	4.3	3.9	8.1
128	0.0	16.2	13.9	30.1	0.0	863.5	740.7	1,604.1
129	0.0	12.3	20.8	33.2	0.0	663.2	1,123.1	1,786.3
130	0.0	36.9	21.3	58.2	0.0	2,484.1	1,430.7	3,914.8
131	0.0	19.7	28.7	48.4	0.0	1,388.5	2,022.6	3,411.0
132	0.0	6.5	18.6	25.1	0.0	393.2	1,117.0	1,510.1
133	0.0	2.7	7.6	10.3	0.0	180.1	507.2	687.3
134	0.0	0.1	34.3	34.4	0.0	3.0	1,943.3	1,946.3
135	0.0	15.2	21.4	36.6	0.0	618.5	873.0	1,491.6
136	0.0	102.7	46.7	149.3	0.0	6,313.5	2,868.5	9,182.0
137	34.3	109.1	15.9	159.3	1,943.0	6,176.7	898.3	9,018.0
138	0.0	123.1	41.2	164.2	0.0	3,797.1	1,270.6	5,067.7
139	0.0	51.9	17.8	69.8	0.0	2,026.5	696.1	2,722.6
140	0.0	19.4	23.0	42.4	0.0	717.5	848.4	1,565.9
141	0.0	11.1	24.4	35.5	0.0	359.4	794.6	1,153.9
142	0.0	9.4	85.3	94.6	0.0	264.7	2,405.0	2,669.6
143	0.0	75.2	20.1	95.3	0.0	2,871.7	768.7	3,640.4
144	48.7	28.8	12.1	89.7	2,365.0	1,401.2	589.5	4,355.8
145	2.4	7.5	5.0	14.9	66.0	204.3	135.3	405.6

	Labour: salaried workers				Wages and salaries before taxes			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
146	6.8	0.0	2.8	9.6	320.0	0.2	132.1	452.2
147	0.0	0.0	0.3	0.3	0.0	0.4	12.9	13.2
148	0.4	0.0	3.4	3.8	17.0	0.6	142.9	160.4
149	0.0	0.0	0.8	0.8	0.0	0.0	30.6	30.6
150	0.0	0.0	0.8	0.8	0.0	0.1	26.9	26.9
151	0.0	58.8	16.0	74.8	0.0	2,384.5	649.7	3,034.2
152	0.0	0.3	0.2	0.6	0.0	19.1	13.9	33.0
153	0.0	1.9	23.5	25.4	0.0	46.0	569.8	615.8
154	370.5	1.4	60.5	432.4	11,249.0	43.5	1,835.7	13,128.2
155	0.0	0.7	1.1	1.9	0.0	19.1	29.0	48.1
156	395.4	11.1	158.3	564.7	8,359.0	234.6	3,345.9	11,939.4
157	10.4	29.2	48.1	87.7	365.0	1,019.6	1,681.7	3,066.2
158	0.0	20.0	55.0	75.0	0.0	876.7	2,407.1	3,283.8
159	0.5	3.3	11.8	15.7	12.0	84.8	300.2	397.0
160	0.0	18.1	14.7	32.7	0.0	669.4	543.2	1,212.6
161	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other services	**11,633.4**	**1,568.2**	**1,748.0**	**14,949.6**	**473 653.0**	**71,591.9**	**74,961.1**	**620 206.0**
162	0.0	1.0	1.8	2.8	0.0	40.3	71.6	112.0
163	0.0	0.0	0.2	0.2	0.0	0.1	8.4	8.5
164	0.0	0.0	2.5	2.6	0.0	0.8	74.1	74.9
165	0.0	0.0	1.7	1.8	0.0	0.6	57.2	57.8
166	0.0	1.0	3.1	4.1	0.0	27.1	85.8	112.9
167	30.3	1.4	12.2	43.9	1,033.0	46.6	418.1	1,497.7
168	0.0	2.4	2.5	4.8	0.0	104.4	106.9	211.3
169	0.0	3.2	1.9	5.1	0.0	174.9	101.5	276.4
170	0.0	3.8	5.8	9.5	0.0	203.8	314.0	517.8
171	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172	0.0	9.6	9.5	19.1	0.0	513.4	505.1	1,018.5
173	0.0	0.0	0.5	0.5	0.0	0.0	17.2	17.2
174	0.0	1.2	0.5	1.7	0.0	66.7	28.7	95.4
175	9.1	24.4	8.4	41.9	699.0	1,878.3	647.0	3,224.3
176	0.0	31.6	13.6	45.2	0.0	1,863.8	802.8	2,666.6
177	0.0	56.7	22.2	78.9	0.0	2,580.8	1,009.1	3,589.9
178	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-commercial sectors	**39.4**	**136.3**	**86.4**	**262.1**	**1,732.0**	**7,501.7**	**4,247.3**	**13,481.1**
Total for sectors	15,032.5	2,420.1	2,254.0	19,706.6	645,491.0	121,509.1	102,446.5	869,446.7

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C7
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Other Workers and Gross Mixed Income for Year 2015, per Sector

	Labour: other workers				Gross mixed income			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
1	0.0	1.2	1.6	2.8	0.0	168.7	229.8	398.4
2	0.0	0.4	5.1	5.5	0.0	31.5	380.0	411.5
3	0.0	0.1	2.5	2.6	0.0	8.5	280.4	288.9
4	0.0	0.3	0.1	0.4	0.0	71.1	12.6	83.7
5	0.0	0.0	0.2	0.2	0.0	0.0	20.3	20.3
6	0.0	0.0	0.4	0.4	0.0	0.2	35.7	35.9
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.2	0.2	0.0	0.3	2.9	3.1
10	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
Primary sector	**0.0**	**2.0**	**10.1**	**12.1**	**0.0**	**280.3**	**962.1**	**1,242.4**
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.2	0.2	0.0	0.4	5.3	5.7
Public services	**0.0**	**0.0**	**0.2**	**0.2**	**0.0**	**0.4**	**5.3**	**5.7**
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	1.8	16.6	5.8	24.3	211.0	1,915.9	669.9	2,796.8
21	0.0	2.3	1.5	3.7	0.0	255.5	163.2	418.7
Construction	**1.8**	**18.9**	**7.3**	**28.0**	**211.0**	**2,171.4**	**833.1**	**3,215.5**
22	0.0	0.0	0.0	0.0	0.0	0.8	2.7	3.6
23	0.0	0.0	0.0	0.1	0.0	1.0	1.4	2.4
24	0.0	0.0	0.0	0.1	0.0	0.6	0.2	0.8
25	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.7
26	0.0	0.1	0.0	0.2	0.0	3.9	1.0	4.9
27	0.0	0.0	0.0	0.0	0.0	0.7	0.4	1.1
28	0.2	0.0	0.0	0.2	14.0	1.0	1.2	16.2
29	0.1	0.1	0.1	0.3	2.0	2.9	2.5	7.3
30	0.8	0.0	0.0	0.8	40.0	0.9	0.7	41.6
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.3

	Labour: other workers				Gross mixed income			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.1	0.4	0.2	0.7	1.0	4.9	1.7	7.6
35	0.0	0.1	0.4	0.5	0.0	2.0	7.8	9.9
36	0.0	0.0	0.4	0.5	0.0	0.2	2.2	2.4
37	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
38	0.0	0.5	0.3	0.8	0.0	12.3	7.6	19.9
39	0.0	1.8	0.1	2.0	0.0	1.6	0.1	1.8
40	13.8	0.6	0.1	14.5	98.0	4.0	0.7	102.7
41	6.1	1.2	1.7	8.9	113.0	21.3	30.6	164.9
42	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.5
43	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
44	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.7	0.0	0.0	0.8	2.0	0.1	0.1	2.2
47	0.6	0.1	0.1	0.7	1.0	0.2	0.1	1.3
48	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.3
49	0.0	0.2	0.1	0.3	0.0	0.6	0.4	0.9
50	0.3	0.2	0.1	0.6	3.0	1.7	1.2	5.9
51	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
52	0.0	0.1	0.1	0.2	0.0	0.2	0.3	0.5
53	0.0	0.1	0.1	0.2	0.0	0.4	0.6	1.0
54	0.0	0.2	0.0	0.2	0.0	2.6	0.4	3.0
55	0.9	0.0	0.0	0.9	28.0	0.6	0.1	28.7
56	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2
57	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59	0.0	0.0	0.0	0.0	0.0	0.9	0.5	1.4
60	0.0	0.1	0.1	0.2	0.0	0.8	1.1	1.9
61	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.5
62	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63	1.8	0.0	0.0	1.8	89.0	0.0	0.1	89.1
64	0.0	0.2	0.4	0.6	0.0	4.4	10.1	14.6
65	0.0	0.3	0.1	0.4	0.0	0.9	0.3	1.2
66	0.0	0.1	0.1	0.2	0.0	1.1	1.5	2.7
67	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
68	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
69	0.0	0.2	0.1	0.3	0.0	0.4	0.1	0.5
70	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

	Labour: other workers				Gross mixed income			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
71	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
72	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
73	0.0	0.0	0.1	0.1	0.0	0.5	0.6	1.1
74	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.7
75	0.0	0.0	0.0	0.0	0.0	0.6	0.7	1.3
76	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.5
77	0.0	0.0	0.0	0.1	0.0	2.0	4.6	6.6
78	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
81	0.0	0.0	0.0	0.0	0.0	0.7	0.6	1.3
82	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
84	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
85	0.0	0.1	0.0	0.1	0.0	0.5	0.1	0.6
86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87	0.0	0.1	0.0	0.1	0.0	0.3	0.1	0.4
88	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4
89	0.0	0.5	0.4	0.9	0.0	3.9	2.6	6.5
90	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.3
93	46.8	2.2	1.0	50.0	947.0	44.8	20.4	1,012.3
Manufacturing	**72.2**	**10.1**	**6.8**	**89.1**	**1,338.0**	**129.3**	**111.8**	**1,579.1**
94	2.3	1.6	8.3	12.1	78.0	55.1	286.2	419.3
95	11.6	6.6	7.5	25.7	813.0	468.2	534.1	1,815.3
96	0.0	0.0	0.3	0.4	0.0	0.9	18.8	19.7
97	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
98	0.0	0.3	0.1	0.4	0.0	10.5	4.7	15.2
99	3.4	5.9	7.4	16.8	202.0	359.2	450.5	1,011.7
100	5.5	0.0	0.0	5.5	2.0	0.0	0.0	2.0
101	0.0	0.6	11.9	12.5	0.0	12.9	245.6	258.5
102	0.0	0.1	0.2	0.3	0.0	8.8	10.5	19.3
103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104	0.0	2.7	2.4	5.1	0.0	13.7	12.0	25.6
105	0.4	4.5	3.1	7.9	10.0	97.8	67.7	175.5
106	177.7	1.0	0.1	178.9	3,482.0	20.3	2.6	3,504.9
107	0.0	0.2	0.6	0.8	0.0	2.4	9.1	11.5

	Labour: other workers				Gross mixed income			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
108	0.0	0.2	1.6	1.9	0.0	3.6	23.2	26.8
109	0.0	0.0	0.0	0.0	0.0	0.2	1.3	1.5
110	0.0	0.3	0.1	0.4	0.0	3.3	1.3	4.6
111	365.5	34.0	4.7	404.2	10,055.0	934.4	129.1	11,118.5
112	0.0	1.8	0.3	2.1	0.0	53.2	7.8	60.9
113	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
115	0.0	0.3	0.3	0.7	0.0	20.8	21.9	42.7
116	0.0	0.2	0.4	0.5	0.0	8.2	19.4	27.6
117	0.0	0.0	0.8	0.8	0.0	0.7	70.7	71.4
118	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	7.1	7.2	0.0	1.4	290.4	291.8
121	0.0	3.4	3.7	7.1	0.0	160.2	171.7	331.8
122	0.0	4.7	2.1	6.8	22.0	4,169.8	1,894.7	6,086.4
123	0.0	4.5	5.8	10.3	0.0	256.4	329.0	585.4
124	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.3	0.2	0.5	0.0	15.7	9.6	25.3
126	0.0	0.6	0.6	1.2	0.0	11.7	11.1	22.8
127	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
128	0.0	4.3	3.7	8.1	0.0	1,814.7	1,556.7	3,371.4
129	0.0	5.2	8.8	14.1	0.0	564.5	956.1	1,520.6
130	0.0	2.7	1.6	4.3	0.0	214.6	123.6	338.2
131	0.0	2.1	3.1	5.2	0.0	42.0	61.2	103.3
132	0.0	3.8	10.7	14.5	0.0	193.8	550.7	744.6
133	0.0	0.1	0.2	0.3	0.0	1.8	5.2	7.0
134	0.0	0.0	10.5	10.5	0.0	0.4	257.3	257.7
135	0.0	10.8	15.2	26.1	0.0	495.9	700.0	1,195.9
136	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137	1.1	3.6	0.5	5.2	11.0	34.3	5.0	50.3
138	0.0	2.9	1.0	3.8	0.0	110.6	37.0	147.6
139	0.0	13.2	4.5	17.8	0.0	54.5	18.7	73.2
140	0.0	0.6	0.7	1.3	0.0	90.2	106.7	196.9
141	0.0	0.3	0.6	0.9	0.0	1.2	2.7	3.9
142	0.0	7.1	64.1	71.1	0.0	139.6	1,268.3	1,407.9
143	0.0	2.6	0.7	3.3	0.0	344.0	92.1	436.1
144	3.3	1.9	0.8	6.0	36.0	21.4	9.0	66.4
145	1.3	4.0	2.6	7.9	20.0	61.2	40.5	121.7

	Labour: other workers				Gross mixed income			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 person-years				2015 $K			
146	6.1	0.0	2.5	8.6	2,466.0	1.2	1,016.6	3,483.8
147	0.0	0.0	0.0	0.0	0.0	0.4	15.4	15.9
148	0.3	0.0	2.8	3.1	19.0	0.7	162.8	182.5
149	0.0	0.0	0.1	0.1	0.0	0.0	1.3	1.3
150	0.0	0.0	1.4	1.4	0.0	0.1	33.2	33.3
151	0.0	45.4	12.4	57.7	0.0	1,974.0	537.9	2,511.9
152	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
153	0.0	0.1	1.0	1.1	0.0	0.7	8.7	9.4
154	3.4	0.0	0.5	4.0	395.0	1.5	64.6	461.1
155	0.0	0.0	0.1	0.1	0.0	11.0	16.7	27.7
156	10.7	0.3	4.3	15.3	284.0	7.9	113.3	405.3
157	3.2	9.0	14.8	27.0	94.0	263.0	433.8	790.7
158	0.0	6.0	16.5	22.5	0.0	192.4	528.2	720.6
159	0.8	3.1	10.9	14.8	14.0	55.3	196.0	265.3
160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
161	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other services	**596.6**	**203.0**	**266.5**	**1,066.0**	**18,003.0**	**13,382.5**	**13,542.7**	**44,928.2**
162	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
163	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
164	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
166	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
168	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
169	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
171	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
173	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
174	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
176	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
178	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-commercial sectors	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Total for sectors	670.6	234.0	290.9	1,195.5	19,552.0	15,963.9	15,455.1	50,971.0

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C8
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Other Gross Income and Value Added for Year 2015, per Sector

	Other gross income				Value added at base prices			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 $K							
1	0.0	284.3	387.4	671.7	0.0	622.7	848.4	1,471.1
2	0.0	34.8	419.1	453.9	0.0	89.2	1,075.2	1,164.4
3	0.0	36.3	1,192.0	1,228.3	0.0	74.6	2,450.3	2,524.9
4	0.0	21.5	3.8	25.3	0.0	146.0	26.0	171.9
5	0.0	0.0	29.6	29.6	0.0	0.0	86.9	86.9
6	0.0	1.2	176.0	177.2	0.0	3.7	527.5	531.2
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
8	0.0	98.2	428.2	526.5	0.0	131.1	571.3	702.4
9	0.0	54.0	563.0	617.0	0.0	76.0	791.9	867.9
10	0.0	0.0	0.1	0.1	0.0	0.0	27.6	27.6
Primary sector	**0.0**	**530.3**	**3,199.2**	**3,729.5**	**0.0**	**1,143.2**	**6,405.1**	**7,548.3**
11	0.0	16,719.5	11,447.7	28,167.2	0.0	20,304.6	13,902.5	34,207.1
12	0.0	147.3	1,978.3	2,125.6	0.0	184.6	2,479.4	2,664.0
Public services	**0.0**	**16,866.8**	**13,426.0**	**30,292.8**	**0.0**	**20,489.2**	**16,381.9**	**36,871.1**
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	476.0	4,336.2	1,516.3	6,328.5	1,562.0	14,216.1	4,971.1	20,749.2
21	0.0	741.3	473.5	1,214.8	0.0	1,126.1	719.2	1,845.3
Construction	**476.0**	**5,077.5**	**1,989.8**	**7,543.3**	**1,562.0**	**15,342.1**	**5,690.3**	**22,594.4**
22	0.0	36.5	118.0	154.5	0.0	59.4	192.2	251.6
23	0.0	76.5	106.6	183.1	0.0	110.1	153.6	263.7
24	0.0	29.4	10.9	40.4	0.0	62.8	23.3	86.1
25	0.0	62.8	60.0	122.9	0.0	111.9	106.9	218.8
26	0.0	436.3	113.7	550.1	0.0	927.6	241.7	1,169.4
27	0.0	80.0	47.2	127.2	0.0	237.9	140.5	378.4
28	289.0	21.1	24.1	334.2	555.0	40.5	46.4	641.9
29	79.0	128.3	109.7	317.0	160.0	259.1	221.7	640.8
30	10,997.0	232.3	203.0	11,432.3	17,041.0	359.9	314.6	17,715.5
31	0.0	89.9	82.0	171.9	0.0	154.5	140.8	295.3
32	0.0	576.3	672.1	1,248.4	0.0	782.9	913.1	1,696.0

	Other gross income				Value added at base prices			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 $K							
33	0.0	110.0	102.8	212.9	0.0	121.1	113.2	234.2
34	79.0	423.7	148.1	650.8	177.0	948.0	331.4	1,456.5
35	0.0	17.5	67.0	84.5	0.0	61.2	234.8	296.0
36	0.0	61.7	650.0	711.7	0.0	165.3	1,739.9	1,905.2
37	0.0	60.7	40.9	101.6	0.0	195.3	131.5	326.8
38	0.0	536.1	330.8	866.8	0.0	1,160.3	715.9	1,876.2
39	0.0	12,444.3	1,003.3	13,447.6	0.0	21,893.6	1,765.2	23,658.7
40	69,817.0	2,835.5	486.7	73,139.2	151,978.0	6,172.5	1,059.4	159,209.8
41	5,052.0	959.0	1,375.9	7,386.9	11,549.0	2,192.4	3,145.6	16,887.0
42	0.0	831.9	806.0	1,637.9	0.0	1,010.4	978.9	1,989.4
43	0.0	247.6	306.7	554.3	0.0	364.8	451.8	816.6
44	0.0	151.9	65.0	217.0	0.0	269.5	115.3	384.8
45	0.0	20.9	140.6	161.4	0.0	33.3	224.6	258.0
46	18,353.0	740.1	584.5	19,677.6	29,538.0	1,191.1	940.7	31,669.8
47	4,362.0	637.2	472.9	5,472.2	6,111.0	892.8	662.6	7,666.4
48	0.0	40.8	80.0	120.8	0.0	106.8	209.7	316.5
49	0.0	540.7	322.5	863.2	0.0	1,096.4	653.9	1,750.3
50	2,327.0	1,440.1	1,056.7	4,823.8	4,644.0	2,873.6	2,108.5	9,626.1
51	0.0	96.4	159.2	255.5	0.0	234.1	386.7	620.8
52	0.0	399.0	472.4	871.4	0.0	667.6	790.5	1,458.1
53	0.0	134.2	209.5	343.8	0.0	266.2	415.6	681.8
54	0.0	1,016.1	145.7	1,161.9	0.0	1,768.2	253.6	2,021.7
55	5,521.0	113.3	16.4	5,650.7	12,329.0	253.0	36.6	12,618.6
56	0.0	1,982.1	555.5	2,537.6	0.0	3,246.9	910.0	4,156.8
57	0.0	460.3	403.9	864.2	0.0	645.3	566.3	1,211.6
58	0.0	2.5	58.2	60.7	0.0	4.7	107.0	111.7
59	0.0	126.9	74.4	201.3	0.0	314.5	184.4	498.9
60	0.0	323.4	479.0	802.5	0.0	769.2	1,139.1	1,908.3
61	3.0	8.7	64.2	75.9	11.0	32.8	242.7	286.6
62	0.0	2.6	4.0	6.6	0.0	6.8	10.5	17.3
63	21,525.0	11.5	20.0	21,556.5	49,001.0	26.1	45.5	49,072.6
64	0.0	145.0	330.6	475.6	0.0	362.0	825.2	1,187.2
65	0.0	265.8	86.0	351.8	0.0	675.7	218.7	894.4
66	0.0	132.5	181.5	313.9	0.0	281.5	385.6	667.0
67	0.0	37.0	161.3	198.3	0.0	79.5	346.4	425.9
68	0.0	54.7	79.1	133.9	0.0	134.2	194.0	328.2
69	0.0	717.6	175.1	892.7	0.0	1,725.0	421.0	2,146.0
70	0.0	10.3	133.6	143.9	0.0	23.6	306.2	329.8

	Other gross income				Value added at base prices			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 $K							
71	0.0	12.8	55.6	68.4	0.0	33.9	147.6	181.6
72	0.0	2.1	25.8	27.8	0.0	5.4	66.6	72.0
73	0.0	98.4	112.2	210.6	0.0	237.8	271.0	508.8
74	0.0	2.8	7.3	10.1	0.0	8.8	22.8	31.6
75	0.0	64.2	82.9	147.2	0.0	131.8	170.1	301.9
76	0.0	19.6	12.1	31.8	0.0	55.2	34.1	89.3
77	0.0	74.9	167.9	242.8	0.0	232.3	521.1	753.5
78	0.0	0.8	42.0	42.8	0.0	1.7	90.5	92.2
79	0.0	2.7	14.6	17.3	0.0	5.5	29.8	35.3
80	0.0	9.9	214.3	224.2	0.0	23.1	498.9	522.0
81	0.0	118.3	93.1	211.4	0.0	264.8	208.4	473.2
82	0.0	3.0	23.7	26.8	0.0	7.3	56.6	63.8
83	35.0	9.4	24.6	68.9	94.0	25.4	66.8	186.3
84	0.0	24.7	59.6	84.2	0.0	44.5	107.5	152.1
85	0.0	3,056.5	494.5	3,551.0	0.0	5,743.6	929.2	6,672.9
86	0.0	0.1	15.6	15.7	0.0	0.2	28.3	28.5
87	0.0	63.9	10.8	74.7	0.0	226.0	38.3	264.3
88	0.0	91.1	227.0	318.0	0.0	176.5	440.0	616.5
89	0.0	89.6	59.3	148.9	0.0	280.3	185.5	465.8
90	0.0	15.0	17.8	32.8	0.0	40.9	48.5	89.4
91	0.0	0.2	0.6	0.8	0.0	0.8	2.0	2.8
92	0.0	24.6	60.3	84.9	0.0	50.2	123.4	173.7
93	16,252.0	769.6	350.5	17,372.2	42,072.0	1,992.3	907.4	44,971.7
Manufacturing	**154,691.0**	**34,463.2**	**15,569.6**	**204,723.7**	**325,260.0**	**64,960.2**	**30,857.6**	**421,077.9**
94	3,049.0	2,143.4	11,130.2	16,322.6	6,832.0	4,803.8	24,944.5	36,580.2
95	4,450.0	2,560.1	2,920.4	9,930.5	15,148.0	8,716.9	9,943.7	33,808.5
96	0.0	62.1	1,333.5	1,395.6	0.0	102.8	2,208.5	2,311.4
97	0.0	1,778.6	1,617.1	3,395.8	0.0	3,099.0	2,817.5	5,916.5
98	0.0	275.2	124.1	399.2	0.0	773.8	348.9	1,122.7
99	1,018.0	1,805.9	2,265.3	5,089.2	2,834.0	5,030.7	6,310.3	14,175.0
100	21,641.0	84.5	54.5	21,780.1	70,659.0	276.0	178.0	71,113.0
101	0.0	2.4	45.2	47.5	0.0	19.5	372.7	392.2
102	0.0	66.6	79.5	146.1	0.0	162.6	194.2	356.8
103	0.0	2.3	477.2	479.5	0.0	2.5	508.6	511.0
104	0.0	2,121.4	1,858.3	3,979.7	0.0	3,905.4	3,421.1	7,326.5
105	82.0	823.6	570.0	1,475.6	257.0	2,575.4	1,782.5	4,614.9
106	196,752.0	1,148.3	144.2	198,044.5	520,137.0	3,035.7	381.2	523,554.0
107	0.0	183.1	701.0	884.1	0.0	452.0	1,730.7	2,182.7

	Other gross income				Value added at base prices			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 $K							
108	0.0	98.2	641.4	739.7	0.0	199.9	1,305.3	1,505.2
109	0.0	22.8	135.7	158.6	0.0	76.3	453.2	529.5
110	0.0	66.5	27.0	93.5	0.0	147.8	59.9	207.7
111	27,838.0	2,586.8	357.4	30,782.2	102,417.0	9,517.2	1,314.8	113,248.9
112	0.0	94.6	13.8	108.4	0.0	286.8	41.9	328.7
113	0.0	221.9	368.8	590.7	0.0	593.5	986.2	1,579.7
114	0.0	15.8	245.4	261.2	0.0	24.8	385.6	410.4
115	0.0	2,689.7	2,837.1	5,526.7	0.0	3,741.8	3,946.8	7,688.6
116	0.0	19.5	45.9	65.4	0.0	62.4	147.0	209.5
117	0.0	0.2	24.1	24.4	0.0	2.6	257.8	260.4
118	123.0	3,998.4	2,966.7	7,088.1	257.0	8,341.3	6,189.1	14,787.4
119	0.0	2,640.3	1,374.2	4,014.5	0.0	3,857.4	2,007.7	5,865.1
120	0.0	3.1	630.2	633.2	0.0	11.3	2,319.3	2,330.6
121	0.0	608.9	652.6	1,261.5	0.0	2,075.3	2,224.3	4,299.6
122	49.0	9,117.1	4,142.7	13,308.8	75.0	14,060.5	6,388.9	20,524.4
123	0.0	192.7	247.2	439.9	0.0	700.0	898.0	1,598.0
124	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	34.0	1,263.8	771.1	2,068.8	41.0	1,551.6	946.7	2,539.3
126	0.0	999.1	952.5	1,951.6	0.0	1,642.2	1,565.8	3,208.0
127	0.0	32.7	29.7	62.4	0.0	36.9	33.6	70.6
128	0.0	-25.0	-21.4	-46.4	0.0	2,653.2	2,275.9	4,929.1
129	0.0	145.4	246.3	391.7	0.0	1,373.1	2,325.5	3,698.6
130	0.0	1,414.9	814.8	2,229.7	0.0	4,113.6	2,369.1	6,482.7
131	0.0	844.5	1,230.2	2,074.7	0.0	2,275.0	3,314.0	5,589.0
132	0.0	183.2	520.5	703.7	0.0	770.2	2,188.2	2,958.4
133	0.0	67.0	188.6	255.6	0.0	249.0	700.9	949.9
134	0.0	0.9	611.9	612.8	0.0	4.3	2,812.5	2,816.8
135	0.0	90.9	128.3	219.1	0.0	1,205.3	1,701.3	2,906.6
136	0.0	1,232.7	560.1	1,792.7	0.0	7,546.2	3,428.6	10,974.8
137	545.0	1,732.5	252.0	2,529.5	2,499.0	7,943.5	1,155.2	11,597.7
138	0.0	815.5	272.9	1,088.3	0.0	4,723.3	1,580.5	6,303.7
139	0.0	882.9	303.3	1,186.1	0.0	2,963.9	1,018.1	3,981.9
140	0.0	57.2	67.7	124.9	0.0	864.9	1,022.8	1,887.7
141	0.0	64.8	143.2	208.0	0.0	425.4	940.5	1,365.9
142	0.0	88.3	802.1	890.4	0.0	492.5	4,475.4	4,967.9
143	0.0	6,770.3	1,812.2	8,582.4	0.0	9,986.0	2,672.9	12,658.9
144	3,438.0	2,036.5	856.8	6,331.3	5,839.0	3,459.1	1,455.4	10,753.5
145	17.0	52.3	34.6	103.9	103.0	317.8	210.4	631.1

	Other gross income				Value added at base prices			
	Direct effects	Indirect effects		Total effects	Direct effects	Indirect effects		Total effects
		Initial suppliers	Other suppliers			Initial suppliers	Other suppliers	
Sector no.	2015 $K							
146	606.0	0.3	249.6	855.9	3,392.0	1.6	1,398.3	4,791.9
147	0.0	0.3	10.5	10.8	0.0	1.1	38.8	39.9
148	8.0	0.3	63.5	71.8	44.0	1.5	369.2	414.7
149	0.0	0.0	8.3	8.3	0.0	0.0	40.2	40.2
150	0.0	0.0	15.6	15.7	0.0	0.2	75.7	75.9
151	0.0	706.6	192.5	899.2	0.0	5,065.1	1,380.2	6,445.3
152	0.0	14.0	10.2	24.3	0.0	33.2	24.2	57.4
153	0.0	32.3	400.2	432.5	0.0	78.9	978.7	1,057.6
154	8,124.0	31.4	1,325.9	9,481.3	19,768.0	76.5	3,226.1	23,070.5
155	0.0	24.7	37.5	62.2	0.0	54.8	83.2	137.9
156	1,944.0	54.5	778.0	2,776.6	10,587.0	297.1	4,237.3	15,121.3
157	280.0	781.5	1,288.9	2,350.4	739.0	2,064.1	3,404.4	6,207.4
158	0.0	312.9	859.1	1,171.9	0.0	1,381.9	3,794.4	5,176.3
159	12.0	70.6	249.9	332.5	38.0	210.7	746.1	994.8
160	0.0	4.8	3.9	8.7	0.0	674.2	547.1	1,221.4
Other services	**270,010.0**	**56,218.4**	**54,101.5**	**380,329.9**	**761,666.0**	**141,192.7**	**142,605.3**	**1,045,464.1**
161	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162	0.0	7.9	14.0	21.8	0.0	48.2	85.6	133.8
163	0.0	0.0	1.5	1.5	0.0	0.1	9.9	10.0
164	0.0	0.1	13.3	13.4	0.0	0.9	87.3	88.3
165	0.0	0.2	14.4	14.5	0.0	0.8	71.5	72.3
166	0.0	7.6	23.9	31.4	0.0	34.7	109.6	144.3
167	197.0	8.9	79.5	285.4	1,230.0	55.5	497.6	1,783.1
168	0.0	34.6	35.4	70.1	0.0	139.0	142.4	281.4
169	0.0	59.4	34.5	93.9	0.0	234.3	135.9	370.2
170	0.0	219.1	337.7	556.8	0.0	422.9	651.6	1,074.5
171	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172	0.0	163.9	161.2	325.1	0.0	677.3	666.3	1,343.6
173	0.0	0.0	4.1	4.1	0.0	0.0	21.3	21.3
174	0.0	32.8	14.1	46.9	0.0	99.5	42.8	142.3
175	393.0	1,057.5	364.3	1,814.8	1,092.0	2,935.8	1,011.2	5,039.1
176	0.0	1,464.8	630.9	2,095.7	0.0	3,328.6	1,433.7	4,762.3
177	0.0	2,717.9	1,062.7	3,780.6	0.0	5,298.7	2,071.7	7,370.4
178	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-commercial sectors	**590.0**	**5,774.6**	**2,791.3**	**9,155.9**	**2,322.0**	**13,276.3**	**7,038.6**	**22,636.9**
Total for sectors	425,767.0	118,930.7	91,077.3	635,775.0	1,090,810.0	256,403.8	208,978.9	1,556,192.7

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C9
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Salaries, Taxation and Related Taxation for Year 2015, per Sector

		Wages and salaries	Salary taxes		Related taxation	
			Quebec	Federal	Quebec	Federal
No.	Sectors	2015 $K				
1	Agricultural crops	401.0	28.0	15.4	72.1	14.8
2	Stockbreeding	298.9	20.7	11.3	65.6	11.0
3	Forestry and forest operations	1,007.7	89.4	52.3	222.7	37.2
4	Fishing, hunting and trapping	62.9	5.3	3.0	14.5	2.3
5	Agriculture support activities	37.0	2.5	1.3	8.4	1.4
6	Forestry support activities	318.1	27.7	16.2	72.9	11.8
7	Oil and gas extraction	0.1	0.0	0.0	0.0	0.0
8	Metallic mineral mining	175.9	26.3	21.2	20.3	2.6
9	Non-metallic mineral mining	247.8	25.1	16.2	53.1	8.1
10	Support activities for mining and oil and gas extraction	27.1	3.4	2.7	4.4	0.6
	Primary sector	**2,576.3**	**228.5**	**139.7**	**534.1**	**89.8**
11	Electric power generation, transmission and distribution	6,039.8	806.7	632.4	611.9	109.1
12	Other utilities	532.8	64.0	48.2	106.7	12.8
	Utilities	**6,572.6**	**870.7**	**680.6**	**718.5**	**121.9**
13	Residential construction	0.0	0.0	0.0	0.0	0.0
14	Non-residential construction	0.0	0.0	0.0	0.0	0.0
15	Engineering and transportation projects	0.0	0.0	0.0	0.0	0.0
16	Engineering projects, oil and natural gas	0.0	0.0	0.0	0.0	0.0
17	Electric power engineering construction	0.0	0.0	0.0	0.0	0.0
18	Communication engineering construction	0.0	0.0	0.0	0.0	0.0
19	Other engineering projects	0.0	0.0	0.0	0.0	0.0
20	Construction, repairs	11,623.8	1,168.1	747.2	2,713.6	386.4
21	Other construction activities	211.8	19.7	11.7	31.5	7.7
	Construction	**11,835.6**	**1,187.8**	**758.9**	**2,745.1**	**394.2**
22	Animal food manufacturing	93.6	7.9	4.5	16.7	3.5
23	Milled products, cereals and oil seeds	78.2	6.9	4.0	13.6	2.9
24	Sugar and confectionery product manufacturing	44.9	4.0	2.3	7.8	1.7
25	Fruit and vegetable preserving and specialty food manufacturing	95.3	8.8	5.1	17.6	3.5
26	Dairy product manufacturing	614.3	65.9	45.0	92.1	18.5
27	Meat product manufacturing	250.1	21.5	12.5	60.3	9.2
28	Fish and seafood preparation and packaging	291.5	19.7	10.5	52.1	10.5
29	Bakeries and tortilla manufacturing	316.4	21.0	11.7	54.8	11.8
30	Other food manufacturing	6,241.7	549.9	321.2	1,048.9	230.8
31	Soft drink and ice manufacturing	123.4	12.0	7.5	20.6	4.3
32	Alcohol beverages manufacturing	447.3	47.9	32.7	69.8	13.5

No.	Sectors	Wages and salaries	Salary taxes		Related taxation	
			Quebec	Federal	Quebec	Federal
		2015 $K				
33	Tobacco manufacturing	21.4	2.5	1.8	3.0	0.6
34	Textile and textile product mills	798.1	68.3	40.1	138.3	29.9
35	Clothing and leather product manufacturing	201.6	13.0	6.9	32.6	7.5
36	Sawmills and wood preservation	1,191.0	120.9	78.1	221.3	39.0
37	Wood paneling, plywood and particle boards manufacturing	224.8	20.0	11.7	51.3	8.3
38	Other wood product manufacturing	989.4	77.9	43.6	228.3	36.6
39	Pulp, paper and paperboard mills	10,209.4	1,147.1	814.6	1,554.1	284.0
40	Converted paper product manufacturing	85,967.9	8,593.3	5,508.1	15,447.7	2,870.4
41	Printing and related support activities	9,335.2	782.6	446.1	1,508.8	345.1
42	Petroleum and coal product manufacturing	350.9	42.2	31.9	49.2	8.4
43	Basic chemical manufacturing	262.2	31.0	23.2	34.4	6.5
44	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	167.8	18.0	12.3	24.4	5.0
45	Fertilizer and other agricultural chemical manufacturing	96.5	9.0	5.4	16.5	3.5
46	Pharmaceutical and medicine manufacturing	11,990.1	1,339.2	946.7	1,734.8	336.7
47	Paint, coating and adhesive manufacturing	2,192.9	227.1	149.4	368.8	70.2
48	Soap, cleaning compound and toilet preparation manufacturing	195.4	18.2	10.9	31.1	7.1
49	Other chemical product manufacturing	886.1	95.8	65.8	152.7	26.3
50	Plastic product manufacturing	4,796.4	420.0	245.0	839.0	176.7
51	Rubber product manufacturing	365.1	33.7	19.8	63.9	13.5
52	Cement and concrete product manufacturing	586.2	59.0	37.8	120.6	19.4
53	Other non-metallic mineral product manufacturing	337.0	32.2	19.7	58.0	11.9
54	Iron and steel mills and ferro-alloy manufacturing	856.9	98.8	72.2	127.8	22.3
55	Steel product manufacturing from purchased steel	6,939.3	783.0	556.8	1,026.6	191.4
56	Alumina and aluminium production and processing	1,619.0	188.5	139.0	227.7	41.4
57	Non-ferrous metal (except aluminum) production and processing	347.3	39.8	28.7	53.6	9.3
58	Foundries	50.9	4.7	2.8	8.6	1.9
59	Forging and stamping	296.2	28.4	17.5	55.0	10.4
60	Plate work and fabricated structural product manufacturing	1,103.9	105.9	65.2	204.1	38.8
61	Boiler, tank and shipping container manufacturing	210.2	21.9	14.8	35.3	6.4
62	Hardware manufacturing	10.7	0.9	0.5	1.8	0.4
63	Spring and wire product manufacturing	27,427.0	2,323.4	1,326.9	5,065.4	1,013.5
64	Machine shops	697.0	64.1	37.4	128.2	25.8
65	Coating, engraving, cold and heat treating and allied activities	541.4	48.0	28.1	110.5	20.0
66	Other fabricated metal product manufacturing	350.4	35.9	23.5	59.6	11.3

No.	Sectors	Wages and salaries	Salary taxes		Related taxation	
			Quebec	Federal	Quebec	Federal
		2015 $K				
67	Agricultural, construction and mining machinery manufacturing	227.5	22.8	14.6	40.2	7.6
68	Industrial machinery manufacturing	194.2	18.8	11.7	34.0	6.7
69	Commercial and service industry machinery manufacturing	1,252.7	144.4	104.7	189.7	33.3
70	Heating equipment and commercial refrigeration equipment manufacturing	185.8	16.4	9.6	31.9	6.9
71	Metalworking machinery manufacturing	113.0	10.0	5.9	18.9	4.2
72	Engine and power transmission equipment manufacturing	44.1	5.4	4.1	5.8	1.0
73	Other general-purpose machinery manufacturing	297.2	29.1	18.3	50.1	10.2
74	Computer and peripheral equipment manufacturing	20.8	2.3	1.6	2.9	0.6
75	Communications equipment manufacturing	153.4	17.8	13.1	20.3	4.0
76	Semiconductor and other electronic component manufacturing	57.1	5.9	3.8	8.5	1.8
77	Other electronic product manufacturing	504.1	58.1	42.1	67.0	13.4
78	Electric lighting equipment manufacturing	49.3	4.4	2.6	8.4	1.8
79	Household appliance manufacturing	18.0	1.7	1.1	2.8	0.6
80	Electrical equipment manufacturing	297.6	34.6	25.2	39.7	7.8
81	Other electrical equipment and component manufacturing	260.5	27.7	18.7	37.9	7.9
82	Motor vehicle manufacturing	37.0	4.1	2.9	6.0	1.0
83	Motor vehicle body and trailer manufacturing	117.2	11.5	6.3	21.4	4.1
84	Motor vehicle parts manufacturing	67.7	5.7	3.2	11.6	2.5
85	Aerospace product and part manufacturing		361.1	265.0	415.1	80.8
86	Railroad rolling stock manufacturing		1.4	1.0	2.1	0.4
87	Ship and boat building	189.2	17.6	10.5	47.0	6.9
88	Other transportation equipment manufacturing	298.1	30.5	19.9	45.4	9.6
89	Household and institutional furniture manufacturing	310.5	22.8	12.6	61.0	11.5
90	Office furniture (including fixtures) manufacturing	56.1	4.7	2.7	11.1	2.1
91	Other furniture-related product manufacturing	1.9	0.2	0.1	0.3	0.1
92	Medical equipment and supplies manufacturing	88.4	7.8	4.6	13.4	3.3
93	Other miscellaneous manufacturing	26,587.3	2,165.6	1,224.9	5,827.7	983.4
	Manufacturing	**214,775.0**	**20,692.3**	**13,120.2**	**38,257.8**	**7,222.6**
94	Wholesale trade	19,838.3	1,997.0	1,278.7	3,168.3	657.2
95	Retail trade	22,062.8	910.6	287.2	3,453.9	816.1
96	Air transportation	896.1	92.4	60.6	151.6	28.7
97	Rail transportation	2,520.4	305.2	231.5	333.0	59.3
98	Water transportation	708.2	81.9	59.5	101.2	18.7
99	Truck transportation	8,074.1	681.0	388.1	1,768.3	298.8

No.	Sectors	Wages and salaries	Salary taxes		Related taxation	
			Quebec	Federal	Quebec	Federal
		2015 $K				
100	Urban transit systems	49,331.0	5,047.2	3,289.0	8,521.4	1,596.2
101	Taxi and limousine service	86.2	2.1	0.0	14.2	3.2
102	Other transit and passenger transportation services	191.4	11.3	5.7	32.6	7.1
103	Pipeline transportation	31.6	4.2	3.3	3.4	0.6
104	Support activities for transportation	3,321.1	336.1	216.6	487.7	109.1
105	Postal and courier services	2,963.9	267.3	156.4	532.9	109.4
106	Warehousing	322,004.5	23,847.6	13,265.6	58,570.3	11,901.7
107	Newspaper publishers	1,287.1	143.2	100.9	190.4	36.4
108	Other publishers	738.7	79.9	54.9	112.0	21.9
109	Software publishers	369.5	48.1	37.8	43.0	7.3
110	Motion picture and video exhibition	109.6	0.4	0.0	16.4	4.1
111	Other motion picture and video industries	71,348.2	7,242.7	4,681.8	11,257.7	2,334.2
112	Sound recording industries	159.4	16.6	11.0	24.6	5.0
113	Broadcasting, except Internet	988.9	103.8	69.3	153.6	30.8
114	Pay and specialty television	149.0	15.5	10.2	23.2	4.7
115	Telecommunications	2,119.2	244.1	178.5	271.1	55.3
116	Data processing and hosting	116.4	12.9	9.0	15.5	3.3
117	Other information services	164.6	16.7	10.8	23.9	5.4
118	Non-depository credit intermediation	7,699.3	744.9	462.1	1,253.1	268.3
119	Insurance carriers	1,850.7	214.7	157.9	237.2	47.6
120	Agencies, brokerages and other insurance related activities	1,405.6	149.9	101.7	193.1	42.6
121	Other financial activities	2,706.3	326.4	247.0	321.3	64.2
122	Lessors of real estate	1,129.2	71.6	37.8	189.3	41.6
123	Offices of real estate agents and brokers and activities related to real estate	572.7	53.1	31.6	83.9	20.9
124	Owner-occupants of housing	0.0	0.0	0.0	0.0	0.0
125	Lessors of non-financial intangible assets and landlords	445.3	36.7	20.2	71.0	16.2
126	Other rental and leasing services	1,233.6	94.9	53.2	179.7	45.6
127	Lessors of non-financial intangible assets	8.1	0.7	0.4	1.2	0.3
128	Legal services	1,604.1	157.1	98.6	236.7	55.0
129	Accounting, bookkeeping and payroll services	1,786.3	176.3	111.5	262.4	60.6
130	Architectural, engineering and related services	3,914.8	445.4	319.5	515.9	106.5
131	Computer systems design and related services	3,411.0	394.2	288.9	438.2	88.5
132	Management, scientific, and technical consulting services	1,510.1	160.6	108.7	212.2	46.0
133	Scientific research and development services	687.3	77.9	55.7	90.9	18.8
134	Advertising and related services	1,946.3	199.2	129.9	279.0	62.9
135	Other professional, scientific and technical services	1,491.6	117.0	65.3	221.3	55.1
136	Holding companies	9,182.0	991.0	679.9	1,250.9	273.2

No.	Sectors	Wages and salaries	Salary taxes		Related taxation	
			Quebec	Federal	Quebec	Federal
		2015 $K				
137	Office administrative services	9,018.0	923.4	602.4	1,290.7	291.7
138	Employment services	5,067.7	273.1	127.9	731.1	187.3
139	Business support services	2,722.6	203.7	113.5	396.8	100.6
140	Travel arrangement and reservation services	1,565.9	109.5	60.1	227.1	57.9
141	Investigation and security services	1,153.9	67.4	33.6	197.5	42.6
142	Services to buildings and dwellings	2,669.6	120.7	44.0	474.7	98.7
143	Facilities and other support services	3,640.4	265.4	147.1	530.1	134.5
144	Waste management and remediation services	4,355.8	397.4	232.0	1,043.9	161.6
145	Schools, except NP and government	405.6	17.2	5.6	59.5	14.6
146	Offices of physicians	452.2	39.6	22.8	67.8	16.9
147	Offices of dentists	13.2	1.0	0.5	2.1	0.5
148	Miscellaneous ambulatory health care services	160.4	12.5	7.5	24.5	6.3
149	Nursing and residential care facilities	30.6	2.2	1.2	4.8	1.1
150	Social assistance	26.9	1.5	0.8	4.4	1.0
151	Performing arts, spectator sports and related industries, and heritage institutions	3,034.2	236.8	132.0	484.1	112.1
152	Gambling industries	33.0	3.5	2.3	5.0	1.0
153	Other amusement and recreation industries	615.8	16.9	0.1	94.6	22.8
154	Traveller accommodation	13,128.2	688.6	315.1	2,210.4	485.5
155	RV parks, recreational camps, rooming and boarding houses	48.1	1.7	0.4	8.1	1.8
156	Food services and drinking places	11,939.4	128.9	0.0	1,814.2	439.3
157	Automotive repair and maintenance	3,066.2	197.9	105.3	572.3	112.8
158	Other repairs and maintenance	3,283.8	275.3	156.9	553.8	121.4
159	Personal care and cleaning services	397.0	13.2	2.7	62.9	14.2
160	Grant-making, civic, and professional and similar organizations	1,212.6	85.0	46.7	178.2	44.8
161	Private households	0.0	0.0	0.0	0.0	0.0
	Other services	**620,206.0**	**50,001.8**	**29,537.0**	**106,346.2**	**21,899.7**
162	Education, NPI	112.0	8.6	4.8	16.4	4.1
163	Ambulatory health care, NPI	8.5	0.6	0.3	1.3	0.3
164	Social assistance, NPI	74.9	3.7	1.5	12.1	2.8
165	Arts, entertainment and recreation, NPI	57.8	3.4	1.7	9.1	2.1
166	Religious organizations	112.9	4.9	1.7	17.3	4.2
167	Other non-profit institutions serving households	1,497.7	93.0	49.2	219.1	55.2
168	Public elementary and secondary educational institutions	211.3	17.7	10.1	31.6	7.8
169	Public college educational institutions	276.4	27.3	17.3	42.7	9.4
170	Universities	517.8	51.3	32.6	80.5	17.5
171	Other public educational institutions	0.0	0.0	0.0	0.0	0.0

No.	Sectors	Wages and salaries	Salary taxes		Related taxation	
			Quebec	Federal	Quebec	Federal
		2015 $K				
172	Hospitals	1,018.5	99.6	62.4	174.4	35.0
173	Public residential care facilities	17.2	1.2	0.6	2.9	0.6
174	Defence services	95.4	9.7	6.3	14.7	3.1
175	Other federal government public administration	3,224.3	388.6	294.4	432.4	76.9
176	Other provincial public administration	2,666.6	281.0	188.3	414.3	82.7
177	Other local public administration	3,589.9	308.4	179.4	628.4	132.7
178	Other aboriginal public administration	0.0	0.0	0.0	0.0	0.0
	Non-commercial sectors	**13,481.1**	**1,298.9**	**850.5**	**2,096.9**	**434.4**
	Total for sectors	**869,446.7**	**74,279.9**	**45,086.9**	**150,698.6**	**30,162.7**

Reference: 20170120-1-1-2012C-2015C (2015C)

Table C10
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on International and Interprovincial Imports for Year 2015, per Good and Service

		International imports			Interprovincial imports		
		Initial suppliers	Other suppliers	Total effects	Initial suppliers	Other suppliers	Total effects
No.	Goods and services	2015 $K					
1	Crop products	2,182.3	550.2	2,732.5	539.7	930.7	1,470.3
2	Livestock	0.0	13.7	13.7	0.0	119.1	119.1
3	Other agricultural products	131.0	19.3	150.3	110.6	51.4	162.0
4	Forest products and services	0.1	861.9	862.0	0.1	272.0	272.1
5	Fishing products	180.1	32.5	212.6	521.2	94.1	615.3
6	Agriculture and forestry support services	0.0	0.0	0.0	0.0	327.0	327.0
7	Mineral fuels	1,347.3	19,115.7	20,463.0	4,987.3	3,738.9	8,726.2
8	Metallic minerals and concentrates	0.0	850.6	850.6	0.0	1,191.4	1,191.4
9	Non-metallic minerals	125.4	340.5	465.9	18.8	620.3	639.1
10	Mining and oil and gas extraction support services	0.0	2.4	2.4	0.0	69.2	69.2
11	Public utilities	10.1	8.4	18.5	404.4	339.8	744.2
12	Residential construction	0.0	0.0	0.0	0.0	0.0	0.0
13	Non-residential construction	0.0	0.0	0.0	0.0	0.0	0.0
14	Engineering projects	0.0	0.0	0.0	0.0	0.0	0.0
15	Construction, repairs	0.0	0.0	0.0	0.0	0.0	0.0
16	Meat, fish and dairy products	745.0	624.4	1,369.4	1,954.6	1,419.0	3,373.7
17	Fruits, vegetables, animal food and others	2,908.7	1,799.1	4,707.9	1,798.4	1,304.5	3,102.8
18	Beverages	483.8	767.6	1,251.4	247.0	909.3	1,156.4
19	Tobacco and related products	0.0	18.9	18.9	0.0	0.6	0.6
20	Textile products	8,288.2	1,314.1	9,602.2	881.7	159.2	1,040.9
21	Clothing, knitting and leather products	24.9	1,277.7	1,302.6	0.1	35.5	35.5
22	Wood products	475.2	875.9	1,351.0	425.7	2,473.7	2,899.4
23	Paper and allied products	43,208.2	6,647.8	49,856.0	44,293.2	5,488.9	49,782.2
24	Printing and publishing	456.1	764.3	1,220.4	744.4	1,430.1	2,174.5
25	Petroleum and coal products	1,029.0	6,028.2	7,057.2	3,149.9	3,257.0	6,406.9
26	Chemicals and pharmaceuticals	39,579.4	17,477.1	57,056.5	11,112.6	5,651.9	16,764.5
27	Rubber and plastic products	8,591.4	4,894.2	13,485.6	2,825.0	2,082.3	4,907.3
28	Non-metallic mineral products	721.3	1,225.4	1,946.7	107.4	340.5	447.9
29	Primary metal products	34,916.3	8,394.1	43,310.5	17,426.4	2,733.3	20,159.6
30	Fabricated metal products	1,540.6	7,157.4	8,698.0	913.0	1,386.8	2,299.8
31	Machinery	14,403.1	9,619.8	24,023.0	1,847.9	984.5	2,832.4
32	Computer and electronic products	4,066.7	4,932.4	8,999.1	11.5	164.0	175.5
33	Electrical equipment and components	963.6	7,963.5	8,927.1	27.9	518.4	546.3

		International imports			Interprovincial imports		
		Initial suppliers	Other suppliers	Total effects	Initial suppliers	Other suppliers	Total effects
No.	Goods and services	2015 $K					
34	Transportation equipment	1,643.5	9,539.3	11,182.9	37.4	1,329.0	1,366.3
35	Furniture and furnishings	3.1	42.7	45.8	1.4	5.2	6.6
36	Various manufactured products	13,613.2	2,362.6	15,975.8	3,347.3	1,161.9	4,509.2
37	Wholesale trade margin and commissions	169.5	184.3	353.8	181.7	17,027.3	17,208.9
38	Retail trade margin and services	0.0	0.0	0.0	0.3	1,406.9	1,407.1
39	Transportation and warehousing	1,655.6	4,314.8	5,970.4	12,039.9	8,456.6	20,496.5
40	Transportation margin	0.0	0.0	0.0	0.0	11,218.9	11,218.9
41	Published and recorded media products	27.9	954.3	982.2	14.3	363.9	378.1
42	Telecommunications	584.1	619.9	1,204.0	864.5	959.4	1,823.9
43	Information and cultural services	60,901.0	3,630.0	21,117.5	12,153.5	5,477.4	17,630.9
44	Financial services and insurance	46,484.0	1,334.7	2,642.3	7,086.2	5,137.4	12,223.7
45	Real estate services and rental	50,855.0	3,735.1	8,401.9	2,474.1	1,588.8	4,062.9
46	Rent imputed to owner-occupants	0.0	0.0	0.0	0.0	0.0	0.0
47	Professional and business services	218,691.0	5,765.2	28,527.1	50,927.6	13,575.1	64,502.7
48	Education services	791.0	16.7	27.5	0.2	9.1	9.3
49	Healthcare and Social assistance	18.0	10.6	11.0	1.1	47.1	48.1
50	Arts, entertainment and recreation	14,921.0	891.0	5,454.5	2,841.7	420.6	3,262.3
51	Accommodation and food services	12.0	3,206.5	3,207.1	0.6	1,179.1	1,179.8
52	Other services (except public administrations and NPI)	8,315.0	341.3	401.5	443.3	1,722.2	2,165.5
53	Other services from non-profit institutions serving households	0.0	0.0	0.0	0.0	0.0	0.0
54	Other public administration services	4,917.0	7.1	38.6	0.0	0.0	0.0
55	Operating and office supplies	69,100.0	0.0	0.0	0.0	0.0	0.0
56	Travel, entertainment, advertising and promotion	44,848.0	0.0	0.0	0.0	0.0	0.0
57	Private financing of non-profit institution services	0.0	0.0	0.0	0.0	0.0	0.0
58	Government financing of public administration sector services	0.0	0.0	0.0	0.0	0.0	0.0
	Total for goods and services	234,965.7	140,533.4	375,499.1	186,763.6	109,179.3	295,942.9

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C11
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Quebec and Federal Indirect Taxes for Year 2015, per Good and Service

		Quebec indirect taxes			Federal indirect taxes		
		Initial suppliers	Other suppliers	Total effects	Initial suppliers	Other suppliers	Total effects
No.	Goods and services	2015 $K					
1	Crop products	0.0	0.0	0.0	0.0	0.0	0.0
2	Livestock	0.0	0.0	0.0	0.0	0.0	0.0
3	Other agricultural products	0.0	0.1	0.1	0.0	0.0	0.0
4	Forest products and services	0.0	0.0	0.0	0.0	0.0	0.0
5	Fishing products	0.0	0.0	0.0	0.0	0.0	0.0
6	Agriculture and forestry support services	0.0	0.0	0.0	0.0	0.0	0.0
7	Mineral fuels	165.6	88.1	253.7	0.5	14.3	14.8
8	Metallic minerals and concentrates	0.0	0.0	0.0	0.0	0.0	0.0
9	Non-metallic minerals	0.0	3.1	3.1	0.0	0.1	0.1
10	Mining and oil and gas extraction support services	0.0	0.0	0.0	0.0	0.0	0.0
11	Public utilities	109.1	157.8	267.0	3.0	24.2	27.3
12	Residential construction	0.0	0.0	0.0	0.0	0.0	0.0
13	Non-residential construction	0.0	0.0	0.0	0.0	0.0	0.0
14	Engineering projects	0.0	0.0	0.0	0.0	0.0	0.0
15	Construction, repairs	0.5	47.7	48.2	0.7	103.3	104.0
16	Meat, fish and dairy products	0.0	0.0	0.0	0.0	0.0	0.0
17	Fruits, vegetables, animal food and others	0.0	0.0	0.0	0.0	0.0	0.0
18	Beverages	671.8	305.8	977.5	131.3	53.0	184.3
19	Tobacco and related products	0.0	0.0	0.0	0.0	0.0	0.0
20	Textile products	0.0	0.2	0.2	0.0	0.1	0.1
21	Clothing, knitting and leather products	0.0	2.9	2.9	0.0	0.0	0.0
22	Wood products	0.0	0.0	0.0	0.0	0.0	0.0
23	Paper and allied products	0.0	0.1	0.1	0.0	0.1	0.1
24	Printing and publishing	0.1	0.4	0.5	0.3	3.0	3.4
25	Petroleum and coal products	3,046.5	2,613.5	5,659.9	898.7	808.3	1,707.0
26	Chemicals and pharmaceuticals	0.1	6.6	6.7	0.1	0.8	0.9
27	Rubber and plastic products	9.8	6.1	15.9	0.0	0.1	0.1
28	Non-metallic mineral products	0.0	0.4	0.4	0.0	0.0	0.0
29	Primary metal products	0.0	0.2	0.2	0.0	0.1	0.1
30	Fabricated metal products	0.0	1.1	1.1	0.0	0.1	0.1
31	Machinery	0.0	0.2	0.2	0.0	0.1	0.1
32	Computer and electronic products	0.0	0.3	0.3	0.0	0.4	0.4
33	Electrical equipment and components	0.0	0.1	0.1	0.0	0.0	0.0

		Quebec indirect taxes			Federal indirect taxes		
		Initial suppliers	Other suppliers	Total effects	Initial suppliers	Other suppliers	Total effects
No.	Goods and services	2015 $K					
34	Transportation equipment	0.0	1.3	1.3	0.0	0.5	0.5
35	Furniture and furnishings	0.0	0.0	0.0	0.0	0.0	0.0
36	Various manufactured products	0.1	1.3	1.4	0.2	0.6	0.8
37	Wholesale trade margin and commissions	0.0	0.0	0.0	0.0	0.0	0.0
38	Retail trade margin and services	0.0	0.0	0.0	0.0	0.0	0.0
39	Transportation and warehousing	0.3	21.0	21.3	0.9	29.0	29.8
40	Transportation margin	0.0	0.0	0.0	0.0	0.0	0.0
41	Published and recorded media products	0.0	0.5	0.5	0.1	0.2	0.2
42	Telecommunications	40.0	78.0	118.0	2.4	30.2	32.6
43	Information and cultural services	60,901.0	6.4	6.5	9.8	30.3	40.2
44	Financial services and insurance	46,484.0	978.2	2,973.1	9.8	184.5	194.3
45	Real estate services and rental	50,855.0	63.9	84.6	16.4	93.2	109.5
46	Rent imputed to owner-occupants	0.0	0.0	0.0	0.0	0.0	0.0
47	Professional and business services	218,691.0	116.8	123.0	8.6	240.6	249.1
48	Education services	791.0	1.6	1.6	0.0	1.1	1.2
49	Healthcare and Social assistance	18.0	0.0	0.0	0.0	0.0	0.0
50	Arts, entertainment and recreation	14,921.0	4.7	5.4	0.3	0.5	0.9
51	Accommodation and food services	12.0	4.0	4.0	0.2	8.3	8.6
52	Other services (except public administrations and NPI)	8,315.0	59.8	76.8	2.8	20.0	22.8
53	Other services from non-profit institutions serving households	0.0	0.1	0.1	0.0	0.0	0.0
54	Other public administration services	4,917.0	0.2	0.2	0.0	0.3	0.3
55	Operating and office supplies	69,100.0	54.3	109.4	2.5	14.4	17.0
56	Travel, entertainment, advertising and promotion	44,848.0	166.4	532.1	349.3	154.4	503.8
57	Private financing of non-profit institution services	0.0	0.0	0.0	0.0	0.0	0.0
58	Government financing of public administration sector services	0.0	0.0	0.0	0.0	0.0	0.0
	Total for goods and services	6,504.4	4,793.1	11,297.4	1,438.2	1,816.1	3,254.3

Reference: 20170120-1-1-2012C-2015C (2015C).

Table C12
Distribution of the Impact of Operating Expenses for Businesses Benefiting from a SIM's Intervention on Quebec and Federal Indirect Taxes for Year 2015, per Sector

		Quebec indirect taxes			Federal indirect taxes		
		Initial suppliers	Other suppliers	Total effects	Initial suppliers	Other suppliers	Total effects
No.	Sectors	2015 $K					
1	Agricultural crops	0.0	15.2	15.2	0.0	10.8	10.8
2	Stockbreeding	0.0	9.3	9.3	0.0	4.4	4.4
3	Forestry and forest operations	0.0	33.8	33.8	0.0	25.4	25.4
4	Fishing, hunting and trapping	0.0	2.0	2.0	0.0	2.8	2.8
5	Agriculture support activities	0.0	0.4	0.4	0.0	0.5	0.5
6	Forestry support activities	0.0	8.5	8.5	0.0	8.0	8.0
7	Oil and gas extraction	0.0	0.0	0.0	0.0	0.0	0.0
8	Metallic mineral mining	0.0	5.0	5.0	0.0	1.6	1.6
9	Non-metallic mineral mining	0.0	8.1	8.1	0.0	3.0	3.0
10	Support activities for mining and oil and gas extraction	0.0	0.3	0.3	0.0	0.1	0.1
	Primary sector	**0.0**	**82.5**	**82.5**	**0.0**	**56.8**	**56.8**
11	Electric power generation, transmission and distribution	0.0	75.2	75.2	0.0	1.0	1.0
12	Other utilities	0.0	6.7	6.7	0.0	0.8	0.8
	Utilities	**0.0**	**81.9**	**81.9**	**0.0**	**1.8**	**1.8**
13	Residential construction	0.0	0.0	0.0	0.0	0.0	0.0
14	Non-residential construction	0.0	0.0	0.0	0.0	0.0	0.0
15	Engineering and transportation projects	0.0	0.0	0.0	0.0	0.0	0.0
16	Engineering projects, oil and natural gas	0.0	0.0	0.0	0.0	0.0	0.0
17	Electric power engineering construction	0.0	0.0	0.0	0.0	0.0	0.0
18	Communication engineering construction	0.0	0.0	0.0	0.0	0.0	0.0
19	Other engineering projects	0.0	0.0	0.0	0.0	0.0	0.0
20	Construction, repairs	11.4	138.2	149.6	1.9	24.4	26.4
21	Other construction activities	0.0	13.2	13.2	0.0	1.9	1.9
	Construction	**11.4**	**151.4**	**162.8**	**1.9**	**26.3**	**28.3**
22	Animal food manufacturing	0.0	1.7	1.7	0.0	0.3	0.3
23	Milled products, cereals and oil seeds	0.0	1.0	1.0	0.0	0.2	0.2
24	Sugar and confectionery product manufacturing	0.0	0.2	0.2	0.0	0.1	0.1
25	Fruit and vegetable preserving and specialty food manufacturing	0.0	1.2	1.2	0.0	0.2	0.2
26	Dairy product manufacturing	0.0	3.5	3.5	0.0	1.1	1.1
27	Meat product manufacturing	0.0	1.4	1.4	0.0	0.2	0.2
28	Fish and seafood preparation and packaging	1.8	0.3	2.1	0.4	0.1	0.5
29	Bakeries and tortilla manufacturing	0.5	1.6	2.1	0.1	0.4	0.5
30	Other food manufacturing	29.3	1.2	30.5	6.3	0.2	6.5
31	Soft drink and ice manufacturing	0.0	1.6	1.6	0.0	0.5	0.5
32	Alcohol beverages manufacturing	0.0	52.8	52.8	0.0	4.9	4.9
33	Tobacco manufacturing	0.0	0.1	0.1	0.0	0.0	0.0

34	Textile and textile product mills	0.5	4.4	4.9	0.0	0.7	0.7
35	Clothing and leather product manufacturing	0.0	0.6	0.6	0.0	0.2	0.2
36	Sawmills and wood preservation	0.0	15.9	15.9	0.0	3.8	3.8
37	Wood paneling, plywood and particle boards manufacturing	0.0	2.8	2.8	0.0	0.3	0.3
38	Other wood product manufacturing	0.0	7.3	7.3	0.0	1.6	1.6
39	Pulp, paper and paperboard mills	0.0	153.0	153.0	0.0	8.5	8.5
40	Converted paper product manufacturing	417.7	19.9	437.6	60.8	2.9	63.7
41	Printing and related support activities	14.3	6.7	21.0	3.5	1.7	5.2
42	Petroleum and coal product manufacturing	0.0	8.1	8.1	0.0	0.7	0.7
43	Basic chemical manufacturing	0.0	6.2	6.2	0.0	0.4	0.4
44	Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	0.0	1.6	1.6	0.0	0.1	0.1
45	Fertilizer and other agricultural chemical manufacturing	0.0	2.2	2.2	0.0	0.6	0.6
46	Pharmaceutical and medicine manufacturing	38.6	2.8	41.4	10.3	0.7	11.1
47	Paint, coating and adhesive manufacturing	10.3	2.6	12.9	2.9	0.8	3.7
48	Soap, cleaning compound and toilet preparation manufacturing	0.0	0.9	0.9	0.0	0.3	0.3
49	Other chemical product manufacturing	0.0	6.0	6.0	0.0	0.9	0.9
50	Plastic product manufacturing	12.5	13.5	26.0	1.9	2.0	3.9
51	Rubber product manufacturing	0.0	1.4	1.4	0.0	0.2	0.2
52	Cement and concrete product manufacturing	0.0	13.0	13.0	0.0	3.6	3.6
53	Other non-metallic mineral product manufacturing	0.0	3.9	3.9	0.0	0.8	0.8
54	Iron and steel mills and ferro-alloy manufacturing	0.0	15.5	15.5	0.0	0.7	0.7
55	Steel product manufacturing from purchased steel	30.1	0.7	30.8	4.7	0.1	4.8
56	Alumina and aluminium production and processing	0.0	33.9	33.9	0.0	0.9	0.9
57	Non-ferrous metal (except aluminum) production and processing	0.0	4.0	4.0	0.0	0.3	0.3
58	Foundries	0.0	0.4	0.4	0.0	0.0	0.0
59	Forging and stamping	0.0	1.8	1.8	0.0	0.3	0.3
60	Plate work and fabricated structural product manufacturing	0.0	6.5	6.5	0.0	1.4	1.4
61	Boiler, tank and shipping container manufacturing	0.0	0.9	0.9	0.0	0.2	0.2
62	Hardware manufacturing	0.0	0.1	0.1	0.0	0.0	0.0
63	Spring and wire product manufacturing	151.6	0.2	151.8	35.7	0.1	35.7
64	Machine shops	0.0	4.1	4.1	0.0	0.8	0.8
65	Coating, engraving, cold and heat treating and allied activities	0.0	3.5	3.5	0.0	0.6	0.6
66	Other fabricated metal product manufacturing	0.0	1.4	1.4	0.0	0.3	0.3
67	Agricultural, construction and mining machinery manufacturing	0.0	1.0	1.0	0.0	0.2	0.2
68	Industrial machinery manufacturing	0.0	1.3	1.3	0.0	0.2	0.2
69	Commercial and service industry machinery manufacturing	0.0	3.7	3.7	0.0	1.4	1.4

70	Heating equipment and commercial refrigeration equipment manufacturing	0.0	0.9	0.9	0.0	0.2	0.2
71	Metalworking machinery manufacturing	0.0	0.3	0.3	0.0	0.1	0.1
72	Engine and power transmission equipment manufacturing	0.0	0.2	0.2	0.0	0.0	0.0
73	Other general-purpose machinery manufacturing	0.0	2.2	2.2	0.0	0.3	0.3
74	Computer and peripheral equipment manufacturing	0.0	0.0	0.0	0.0	0.0	0.0
75	Communications equipment manufacturing	0.0	0.5	0.5	0.0	0.1	0.1
76	Semiconductor and other electronic component manufacturing	0.0	0.1	0.1	0.0	0.0	0.0
77	Other electronic product manufacturing	0.0	1.5	1.5	0.0	0.4	0.4
78	Electric lighting equipment manufacturing	0.0	0.1	0.1	0.0	0.0	0.0
79	Household appliance manufacturing	0.0	0.1	0.1	0.0	0.0	0.0
80	Electrical equipment manufacturing	0.0	1.0	1.0	0.0	0.2	0.2
81	Other electrical equipment and component manufacturing	0.0	0.8	0.8	0.0	0.2	0.2
82	Motor vehicle manufacturing	0.0	0.4	0.4	0.0	0.0	0.0
83	Motor vehicle body and trailer manufacturing	0.3	0.5	0.8	0.0	0.0	0.1
84	Motor vehicle parts manufacturing	0.0	0.2	0.2	0.0	0.0	0.0
85	Aerospace product and part manufacturing		9.9	9.9	0.0	3.9	3.9
86	Railroad rolling stock manufacturing		0.0	0.0	0.0	0.0	0.0
87	Ship and boat building	0.0	0.9	0.9	0.0	0.2	0.2
88	Other transportation equipment manufacturing	0.0	1.2	1.2	0.0	0.3	0.3
89	Household and institutional furniture manufacturing	0.0	1.5	1.5	0.0	0.3	0.3
90	Office furniture (including fixtures) manufacturing	0.0	0.2	0.2	0.0	0.1	0.1
91	Other furniture-related product manufacturing	0.0	0.0	0.0	0.0	0.0	0.0
92	Medical equipment and supplies manufacturing	0.0	0.2	0.2	0.0	0.1	0.1
93	Other miscellaneous manufacturing	128.0	8.8	136.7	23.9	1.6	25.5
	Manufacturing	**835.6**	**449.9**	**1,285.4**	**150.4**	**54.6**	**205.0**
94	Wholesale trade	68.9	297.9	366.8	16.9	71.9	88.8
95	Retail trade	158.3	197.1	355.4	20.3	25.1	45.4
96	Air transportation	0.0	50.6	50.6	0.0	27.5	27.5
97	Rail transportation	0.0	106.0	106.0	0.0	17.3	17.3
98	Water transportation	0.0	35.4	35.4	0.0	5.8	5.8
99	Truck transportation	281.4	1,124.4	1,405.7	55.4	221.2	276.6
100	Urban transit systems	1,242.5	8.0	1,250.4	319.8	2.1	321.8
101	Taxi and limousine service	0.0	22.7	22.7	0.0	7.4	7.4
102	Other transit and passenger transportation services	0.0	13.0	13.0	0.0	2.4	2.4
103	Pipeline transportation	0.0	1.2	1.2	0.0	0.0	0.0
104	Support activities for transportation	0.0	112.8	112.8	0.0	28.5	28.5
105	Postal and courier services	6.5	107.4	113.9	2.6	42.3	44.9
106	Warehousing	1,868.1	12.3	1,880.4	376.5	2.5	379.0
107	Newspaper publishers	0.0	2.1	2.1	0.0	0.7	0.7
108	Other publishers	0.0	3.7	3.7	0.0	1.4	1.4

109	Software publishers	0.0	0.7	0.7	0.0	0.3	0.3
110	Motion picture and video exhibition	0.0	2.7	2.7	0.0	0.7	0.7
111	Other motion picture and video industries	958.9	101.4	1,060.3	254.3	26.9	281.2
112	Sound recording industries	0.0	5.6	5.6	0.0	1.5	1.5
113	Broadcasting, except Internet	0.0	3.4	3.4	0.0	1.6	1.6
114	Pay and specialty television	0.0	0.6	0.6	0.0	0.2	0.2
115	Telecommunications	0.0	34.0	34.0	0.0	6.0	6.0
116	Data processing and hosting	0.0	0.2	0.2	0.0	0.1	0.1
117	Other information services	0.0	1.6	1.6	0.0	0.8	0.8
118	Non-depository credit intermediation	0.2	30.8	31.0	2.5	144.1	146.6
119	Insurance carriers	0.0	9.5	9.5	0.0	117.6	117.6
120	Agencies, brokerages and other insurance related activities	0.0	14.3	14.3	0.0	34.2	34.2
121	Other financial activities	0.0	21.2	21.2	0.0	184.4	184.4
122	Lessors of real estate	0.5	162.8	163.3	1.1	296.3	297.4
123	Offices of real estate agents and brokers and activities related to real estate	0.0	36.1	36.1	0.0	15.3	15.3
124	Owner-occupants of housing	0.0	0.0	0.0	0.0	0.0	0.0
125	Lessors of non-financial intangible assets and landlords	1.7	93.2	94.9	0.5	20.5	20.9
126	Other rental and leasing services	0.0	42.2	42.2	0.0	14.4	14.4
127	Lessors of non-financial intangible assets	0.0	0.1	0.1	0.0	0.0	0.0
128	Legal services	0.0	7.5	7.5	0.0	2.7	2.7
129	Accounting, bookkeeping and payroll services	0.0	9.6	9.6	0.0	3.3	3.3
130	Architectural, engineering and related services	0.0	34.8	34.8	0.0	7.7	7.7
131	Computer systems design and related services	0.0	7.7	7.7	0.0	2.5	2.5
132	Management, scientific, and technical consulting services	0.0	7.2	7.2	0.0	2.6	2.6
133	Scientific research and development services	0.0	1.0	1.0	0.0	0.6	0.6
134	Advertising and related services	0.0	14.1	14.1	0.0	5.1	5.1
135	Other professional, scientific and technical services	0.0	9.8	9.8	0.0	5.3	5.3
136	Holding companies	0.0	24.5	24.5	0.0	17.2	17.2
137	Office administrative services	4.0	14.9	18.9	2.2	7.9	10.1
138	Employment services	0.0	10.0	10.0	0.0	5.5	5.5
139	Business support services	0.0	6.8	6.8	0.0	3.3	3.3
140	Travel arrangement and reservation services	0.0	7.8	7.8	0.0	1.8	1.8
141	Investigation and security services	0.0	4.8	4.8	0.0	1.7	1.7
142	Services to buildings and dwellings	0.0	103.8	103.8	0.0	43.9	43.9
143	Facilities and other support services	0.0	18.9	18.9	0.0	10.8	10.8
144	Waste management and remediation services	175.4	147.2	322.6	35.0	29.4	64.4
145	Schools, except NP and government	3.2	17.4	20.6	1.3	6.9	8.2
146	Offices of physicians	41.9	17.3	59.2	17.1	7.0	24.1
147	Offices of dentists	0.0	2.1	2.1	0.0	0.9	0.9
148	Miscellaneous ambulatory health care services	1.0	8.9	9.9	0.4	3.7	4.1
149	Nursing and residential care facilities	0.0	0.5	0.5	0.0	0.2	0.2

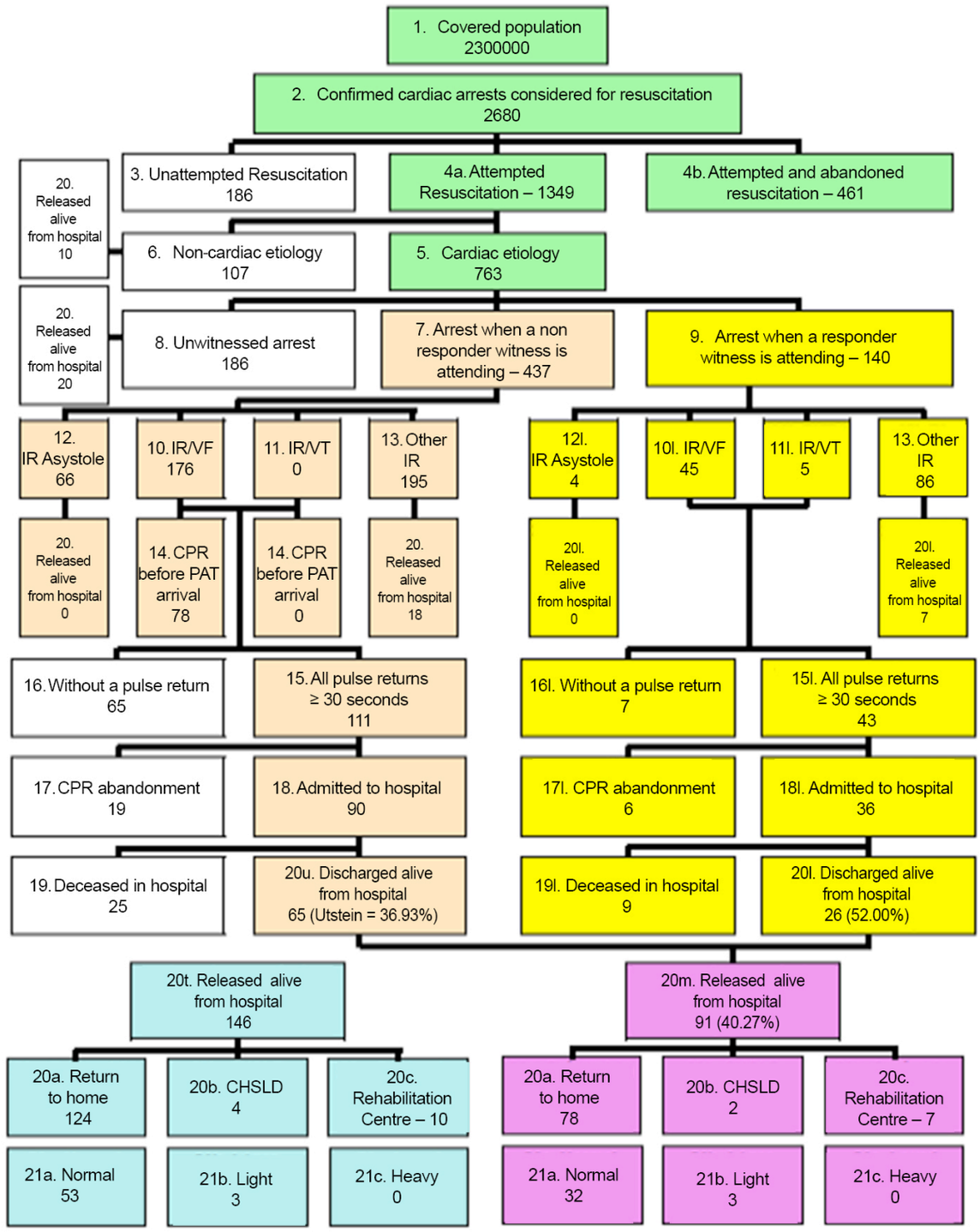
150	Social assistance	0.0	2.1	2.1	0.0	0.8	0.8
151	Performing arts, spectator sports and related industries, and heritage institutions	0.0	59.8	59.8	0.0	10.8	10.8
152	Gambling industries	0.0	0.1	0.1	0.0	1.2	1.2
153	Other amusement and recreation industries	0.0	20.5	20.5	0.0	3.6	3.6
154	Traveller accommodation	314.5	52.3	366.9	61.2	10.2	71.4
155	RV parks, recreational camps, rooming and boarding houses	0.0	2.9	2.9	0.0	0.9	0.9
156	Food services and drinking places	502.0	212.2	714.2	91.5	38.6	130.1
157	Automotive repair and maintenance	10.4	75.7	86.1	3.5	25.5	29.0
158	Other repairs and maintenance	0.0	119.2	119.2	0.0	43.6	43.6
159	Personal care and cleaning services	0.2	6.4	6.6	0.1	2.1	2.2
160	Grant-making, civic, and professional and similar organizations	0.0	2.7	2.7	0.0	2.1	2.1
161	Private households	0.0	0.0	0.0	0.0	0.0	0.0
	Other services	**5,639.7**	**3,685.5**	**9,325.1**	**1,262.3**	**1,630.4**	**2,892.6**
162	Education, NPI	0.0	0.6	0.6	0.0	0.4	0.4
163	Ambulatory health care, NPI	0.0	0.1	0.1	0.0	0.0	0.0
164	Social assistance, NPI	0.0	0.6	0.6	0.0	0.6	0.6
165	Arts, entertainment and recreation, NPI	0.0	1.2	1.2	0.0	2.3	2.3
166	Religious organizations	0.0	1.7	1.7	0.0	1.4	1.4
167	Other non-profit institutions serving households	16.5	7.4	23.9	22.9	10.3	33.2
168	Public elementary and secondary educational institutions	0.0	2.6	2.6	0.0	0.7	0.7
169	Public college educational institutions	0.0	1.7	1.7	0.0	0.6	0.6
170	Universities	0.0	12.5	12.5	0.0	4.4	4.4
171	Other public educational institutions	0.0	0.0	0.0	0.0	0.0	0.0
172	Hospitals	0.0	8.5	8.5	0.0	1.4	1.4
173	Public residential care facilities	0.0	0.1	0.1	0.0	0.0	0.0
174	Defence services	0.0	0.1	0.1	0.0	0.1	0.1
175	Other federal government public administration	1.2	4.5	5.7	0.7	2.5	3.2
176	Other provincial public administration	0.0	5.3	5.3	0.0	1.1	1.1
177	Other local public administration	0.0	295.1	295.1	0.0	20.3	20.3
178	Other aboriginal public administration	0.0	0.0	0.0	0.0	0.0	0.0
	Non-commercial sectors	**17.7**	**342.0**	**359.6**	**23.6**	**46.3**	**69.9**
	Total for sectors	6,504.4	4,793.1	11,297.4	1,438.2	1,816.1	3,254.3

Reference: 20170120-1-1-2012C-2015C (2015C).

APPENDIX D
STATISTICAL REPORT: UTSTEIN MODIFIED

Urgences-santé Québec

Statistical Report: Utstein Modified
2013-04-01- to 2014-03-31
Corporation d'Urgences-santé



2014-09-17

APPENDIX E
GLOSSARY

Value Added at Factor Cost

Represents a measurement of the value of the gross domestic production of Quebec economy. In the ISQ Cross-Sector Model, value added at factor cost is calculated through the sum of production factor compensations, i.e. wages and salaries before taxes, net income of sole proprietorships and other gross income before taxes. This concept reflects the concept of the gross domestic product based on factor cost which appears in the Quebec Economic Accounting System before the 1997 reference year. Since the 1997 reference year, the notion of value added at factor cost is replaced with the value added at base prices.

Autonomous Expenditures

Increased expenditures in a sector of final demand representing a so-called shock on Quebec economy. These expenditures include goods and services bought from businesses, but also frequently include direct purchases of primary factors matching a value added within the very sector of final demand.

When the shock to be simulated is defined as a growth in a productive sector activity, two assumptions are stated: first, it is assumed that the sector of final demand, which varies its autonomous expenditures so as to allow an increase in simulated activity, is the sector of exports (exported goods and services are all produced locally); second, it is assumed that exported goods and services are exempt from margins and indirect taxes. These assumptions are required since the Cross-Sector Model measures only the initial autonomous expenditures and the increase in demand is entirely passed on the target productive sector.

Demand Propagation Process

Once a shock on a sector of final demand or a productive sector has been specified, the model assesses the economic implications based on successive rounds of revenues and expenses in a process called "goods and services demand propagation".

The concept underlying the operation of the model is that any expense of an economic agent is an income for another agent (or another entity within the same group of agents) who then incurs expenses. Therefore, any increase in goods and services expenses is evidenced through an equivalent increase of receipts, for the Quebec and Canada Governments (indirect taxes), the non-resident sector (imports) or the "other outputs" group, and also through an increase of the production levels of the productive sectors, which in turn generate an equivalent increase in their goods and services intermediate expenses and their value added.

Direct Effects

Concerning a shock on a sector of final demand, the direct effects are those which can be observed in the form of an increased value added, other outputs, indirect taxes,

subsidies and imports as well. Direct effects also include effects on wage and salary taxes and related taxation resulting from activity variations noted in the section under review.

Direct effects are calculated from two perspectives: the first refers to the internal effects of final demand and the second refers to the effects on "initial suppliers". Internal effects of final demand are recorded when part of the shock in expenditure results directly in a demand for production factors such as labour or capital. With respect to effect on the "initial suppliers", they reflect the activity of productive sectors which meet the sector directly of final demand.

It should be noted that a simulation in a sector of final demand not using primary factors would show no internal effect, as all the direct effects would appear under the "initial suppliers".

When the shock is on the activity of the productive sector itself, the direct effects are exclusively those we can calculate in this sector and which concern components of its value added, including the calculation of taxes and related tax receipts resulting from it.

Direct Internal Effects of Final Demand

Effects resulting from a direct demand for production factors, such as labour or capital, from a sector of final demand.

Effects on Initial Suppliers

Effects reflecting the activity of the productive sectors providing the sector of final demand or another simulated productive sector with goods and services directly.

Final Demand

The demand of goods and services bought by the final demand sectors to be able to use them without further processing. In the Cross-Sector Model, the demand for each good or service is assessed based on consumption prices. Consumption prices, or purchase prices, are the prices actually paid by the buyers. They are equivalent to the production prices, i.e. the prices charged by the producers within their premises, plus margins (transportation, gas distribution, pipelines, warehousing, wholesale, retail) and indirect taxes on goods and services which could be paid by the consumers, but which are not collected by the producers.

Gross Mixed Income

Describes the income of unincorporated business owners (sole proprietorships). The term "mixed" refers to the fact that income includes both a compensation for the work performed by the owner and the revenue of the owner as an entrepreneur. It is the equivalent of the "sole owner business net income" used in the Quebec Cross-Sector Model. Since the implementation of Statistics Canada input-output tables for year

2010, this income includes provisions for capital consumption of sole proprietorships (construction, machinery and equipment, software) which were included in other gross income, which accounts for the addition of the word "gross".

Imports of Goods and Services

Representing the contribution of the external sector (international and interprovincial) to provide the Quebec economy sectors with goods and services. The volume of imports helps record the competitive and non-competitive imports, and the estimates are based on production prices, similar to the sales of the productive sectors. Non-competitive imports include all the goods which cannot be produced in Quebec for weather, geological or other reasons. Imports are deemed to be leaks as they do not generate an effect on the Quebec economy. The value of international imports includes customs duties.

Indirect Effects

With respect to a shock simulated from final demand, indirect effects reflect those observed with suppliers who come after the "initial suppliers".

Indirect effects generated when simulating an increase in expenditures in a productive sector are those recorded with the suppliers of the simulated sector and the subsequent suppliers.

Indirect Taxes

Include payments to federal and Quebec administrations further to the purchase of goods and services and the use of sector primary factors. Indirect taxes on goods and services include the Quebec Sales Tax (QST), the Federal Goods and Services Tax (GST) and specific taxes including federal taxes and excise duties and Quebec specific taxes applicable notably to fuels, alcohol beverages and tobacco products. The productive sector sales taxes reflect the amounts they collect on their sales of goods and services less the tax refunds on their intermediate entry purchasing. In the Cross-Sector Model, indirect taxes are deemed as leaks, since their amount is not re-injected in the Quebec economy.

Production taxes are taxes on production factors used by businesses as part of their production activities: lands, fixed assets or labour. These are real asset taxes, salary supply taxes, capital taxes, professional taxes, etc. These taxes are included in the other gross income before taxes since the introduction of the 1997 version of input-output tables.

Intermediate Demand

Demand of goods and services bought and fully used by productive sectors in their production process. It is also known as intermediate inputs or intermediate entries. When goods are bought to be used over a long period, e.g. machinery, they are then

classified in the fixed capital gross formation section, i.e. as a final demand. Similar to final demand, intermediate demand for each good or service is also assessed based on consumption prices.

Inventory Variation

Reflects an increase or decrease of business goods inventories. In the Cross-Sector Model, a distinction is made between an increase of inventories and a decrease of inventories. The first is deemed to be a final demand. The second is a component of goods supply, but is deemed to be a leak, as it does not result from a current year production of productive sectors and does not generate an additional demand for goods and services from the productive sectors.

Labour

Represents the workload used by the different sectors of the Quebec economy. The unit of measurement used in the model for labour is the person-year, defined as the number of hours normally worked by an individual in a year for the sector under review. This measurement unit constitutes the standardization of the annual work of an individual, so that the results can be very different from those obtained when referring to the number of employed individuals. The difference between both measurement units is accounted for by the inclusion of the number of workers who work overtime, who have a part-time schedule or whose work is seasonal.

Labour data reflects the workload rather than employment recording. Therefore, 100 workers working 10% overtime each will total 110 person-years, i.e. a 10% increase in labour, whereas the number of employed individuals will remain unchanged. Similarly, two part-time jobs represent a person-year.

Labour includes first, salaried employees from various economic sectors and second, contractors with sole proprietorships such as farmers and farm owners or individuals acting as part of independent professions.

Leaks

Sectors providing goods and services or receiving part of a demand for goods and services without generating themselves an additional demand for goods and services with the Quebec economy productive sectors. The leaks include the external sector (imports of goods and services), the sector of other outputs and the indirect taxes on goods and services.

Net Income of Sole Proprietorships

Accounts for the gains of sole proprietors for their own business. Also includes the net income of independent profession members such as doctors, dentists, lawyers, engineers, and the individuals' net rental income. It is replaced with the gross mixed income in the 2010 version of the Quebec Cross-Sector Model.

Other Gross Income Before Taxes

They include revenues of corporations and businesses (except for sole proprietorships), capital return (amortization, depletion and depreciation of equipment and buildings), various interest charges and other charges (employer charges, fringe benefits, etc.). Since the 1997 reference version of the Cross-Sector Model, they also include indirect taxes on production and production subsidies. Capital return for sole proprietorships has been transferred to the gross mixed income since the 2010 reference version.

Primary Factors

Inputs which are not deemed as current outputs of productive sectors. They are also known as primary inputs or else, production factors. In the Cross-Sector Model, they include wages and salaries before taxes, gross mixed income, other gross income before taxes, indirect taxes on goods and services and subsidies on goods and services. These are components of the value added at market prices.

Productive Sectors

Sectors which contribute to meeting the demand of other sectors for goods and services. The productive sectors belong to three groups: commercial sectors, non-commercial sectors and fictitious sectors.

The first group includes all the establishments making their production available on the market at an economically significant price. It is also known as the business sector. Since the 1997 reference year, these sectors are sorted based on the North American Industry Classification System (NAICS).

The non-commercial sectors, previously classified in the group of final demand sectors, are now included in the group of productive sectors. They provide most of their goods and services for free or at a very low price. These are non-profit organizations serving households (religious organizations, private education establishments) and the public administrations (hospitals, primary and secondary public schools, defence services, etc.).

There are seven fictitious sectors: operating supplies, office supplies, cafeteria supplies, laboratory supplies, travels and leisure, advertising and promotion and transportation margins. Each fictitious sector generates a single matching fictitious good. These fictitious sectors and goods help record the expenses for the goods and services groups in the productive sectors where the exact composition of expenses is not known for each productive sector.

Sectors of Final Demand

Sectors where the activity is not determined by the demands of other sectors. These sectors are exogenous to the production channel. They include the household expenditures in the form of personal expenses in consumption goods and services, expenses of the various government levels, of the education sector, of hospitals,

of fixed capital gross formation sectors (machinery and equipment, construction, etc.), of inventory variations in the form of inventory increases and international and interprovincial exports of goods and services.

Subsidies

Unilateral payments between two sectors, without trading goods and services in consideration. They include mostly payments made by Quebec and Federal administrations to businesses based on their production or the values or quantities of goods and services they generate or import. There are two types of subsidies: product subsidies and production subsidies. Product subsidies are payable for each good or service unit. The second type is made of subsidies in connection with production factors, for instance subsidies allocated for employment creation and education. These subsidies are part of the other gross income before taxes with the introduction of the 1997 version of input-output tables.

Taxation and Related Taxes

Amounts calculated per salary bracket. Taxes on wages and salaries are calculated using the Quebec and Canada tax tables, while following the process of the double tax return system applicable to the Province of Quebec. Therefore, the taxable income (employment income less deductions) is used to determine payable taxes, from which non-refundable tax credits are deducted and to which surtaxes are added to calculate the effective tax amount. For each sector, two taxation factors are available: one for the Province of Quebec and one for the Federal Government.

The Quebec related taxation, as presented in the model outcomes, includes the contributions paid to the Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST), to the Fonds des services de santé (FSS), to the Quebec Parental Insurance Plan (QPIP) and to the Quebec Pension Plan (QPP). An employer is the only one to pay contributions to CNESST, with a rate set on a yearly basis by this organization and varying based on the sector as it is determined in connection with the risk of an accident in the workplace. The Fonds des services de santé (FSS) is financed through a premium paid by the employer and matching a fixed percentage of the salary supply in the sector under review. Since 1978, the amounts paid by employees to FSS are incorporated in the amounts paid by employees as taxes on salaries. The employer and the employee pay equal contributions to QPP and the employer contribution is determined by the employee contribution. The Federal related taxation includes mostly the employer and employee contributions to the Employment Insurance Plan. The employee pays a specific percentage of his salary before taxes up to a maximum amount. The employer contribution represents 1.4 times the amount paid by the employee.

Total Effects

Sum of direct and indirect effects.

Value Added at Base Prices

Sum of production factor compensations, i.e. wages and salaries before taxes, net income of sole proprietorships and other gross income before taxes in the Cross-Sector Model. Production taxes and production subsidies are included in the other gross income. Before the 1997 reference year, it is calculated using the sum of the value added at factor cost and indirect taxes on production less production subsidies. Since the 2010 reference year, the gross mixed income replaces the net income of sole proprietorships in the calculation.

Value Added at Market Prices

Since the 1997 reference year, it is equal to the sum of the value added at base prices and indirect taxes on goods and services, less subsidies on goods and services. Before the 1997 reference year, the value added at market prices is the sum of the value added at factor cost and indirect taxes less subsidies.

Wages and Salaries Before Taxes

Reflects the salaried employees' gross compensation. Estimates are established before any deductions (taxes, employment insurance, etc.).

APPENDIX F
DATA INCORPORATED IN THE MODEL

Table F1
Data incorporated into the Model

Preservations in sales volumes ($) adjusted based on effective coverage

QCSM code description	QCSM code	Adjusted preservation rate	$K
Traveller accommodation	W154	92%	575
Office administrative services	W137	92%	3,680
Personal care services and other personal services	Z58	75%	75
Converted paper product manufacturing	W40	92%	3,680
Hospitality and beverage serving place services	W156	75%	1,500
Truck transportation	W99	92%	544
Printing and related support activities	W41	25%	150
Postal, messaging and courier services	W105	92%	460
Hospitality and beverage serving place services	W156	92%	327
Plastic product manufacturing	W50	75%	4,079
Hospitality and beverage serving place services	W156	92%	782
Plastic product manufacturing	W50	92%	8,280
Automobile equipment rental and lease	W125	60%	72
Public residential care facilities	W173	0%	-
Hospitality and beverage serving place services	W156	0%	-
Printing and related support activities	W41	92%	23,000
Miscellaneous ambulatory health care services	W148	75%	56
Other miscellaneous manufacturing	W93	92%	4,600
Motor vehicle body and trailer manufacturing	W83	75%	300
Office administrative services	W137	92%	55
Paint, coating and adhesive manufacturing	W47	75%	1,917
Wholesale trade	W94	92%	1,840
Pharmaceutical and medicine manufacturing	W46	75%	57,750
Boiler, tank and shipping container manufacturing	W61	25%	25
Hospitality and beverage serving place services	W156	92%	276
Public elementary and secondary educational institutions	W168	0%	-
Retail trade	W95	92%	7,728
Other local public administration	W177	0%	-
Retail trade	W95	92%	7,360
Hospitality and beverage serving place services	W156	92%	368
Electric power generation, transmission and distribution	W11	0%	-
Hospitality and beverage serving place services	W156	92%	294
Public elementary and secondary educational institutions	W168	0%	-
Public elementary and secondary educational institutions	W168	0%	-
Other miscellaneous manufacturing	W93	92%	926
Other miscellaneous manufacturing	W93	92%	46,000
Retail trade	W95	0%	-
Steel product manufacturing from purchased steel	W55	92%	43,240

QCSM code description	QCSM code	Adjusted preservation rate	$K
Waste management and remediation services	W144	92%	6,440
Public elementary and secondary educational institutions	W168	0%	-
Paint, coating and adhesive manufacturing	W47	60%	13,200
Converted paper product manufacturing	W40	92%	82,800
Retail trade	W95	75%	450
Retail trade	W95	0%	-
Retail trade	W95	92%	230
Steel product manufacturing from purchased steel	W55	92%	322
Offices of physicians	W146	92%	4,140
Hospitality and beverage serving place services	W156	92%	782
Hospitality and beverage serving place services	W156	92%	662
Lessors of real estate	W122	92%	138
schools, instruction and educational support services, NPI	W145	92%	184
Construction and repairs	W20	92%	3,174
Construction and repairs	W20	25%	57
Warehousing	W106	92%	216
Retail trade	W95	92%	552
Other public educational institutions	W171	0%	-
Radio and television broadcasting (except internet)	W113	0%	-
Other miscellaneous manufacturing	W93	92%	92
Hospitality and beverage serving place services	W156	0%	-
Religious organizations	W166	0%	-
Public elementary and secondary educational institutions	W168	0%	-
Automotive repair and maintenance	W157	75%	731
Retail trade	W95	92%	3,680
Traveller accommodation	W154	92%	14,720
Retail trade	W95	92%	1,196
Other miscellaneous manufacturing	W93	75%	37,729
Depository credit intermediation	W118	92%	368
Hospitality and beverage serving place services	W156	92%	644
Retail trade	W95	75%	131
Spring and wire product manufacturing	W63	92%	46,000
Retail trade	W95	92%	340
Other public services	W12	0%	-
Hospitality and beverage serving place services	W156	92%	230
Hospitality and beverage serving place services	W156	92%	225
Other local public administration	W177	0%	-
Other local public administration	W175	92%	1,656
Hospitality and beverage serving place services	W156	92%	332
Hospitality and beverage serving place services	W156	92%	345
Automotive repair and maintenance	W157	92%	454

QCSM code description	QCSM code	Adjusted preservation rate	$K
Public elementary and secondary educational institutions	W168	0%	-
Fish and seafood preparation and packaging	W28	60%	1,920
Retail trade	W95	60%	47
Converted paper product manufacturing	W40	92%	46,000
Religious organizations	W166	0%	-
Automotive repair and maintenance	W157	0%	-
Other non-profit institutions serving households	W167	92%	2,300
Other non-profit institutions serving households	W167	0%	-
Arts, entertainment and recreation, NPI	W165	0%	-
Traveller accommodation	W154	92%	10,120
Retail trade	W95	92%	184
Motion picture and video exhibition	W110	0%	-
Other provincial public administration	W176	0%	-
Retail trade	W95	75%	113
Holding companies	W136	0%	-
Retail trade	W95	0%	-
Retail trade	W95	0%	-
Retail trade	W95	92%	11
Urban transit systems	W100	75%	52,500
Other motion picture and video industries	W111	92%	286,131
Wholesale trade	W94	0%	-
Hospitality and beverage serving place services	W156	92%	5,520
Personal care and cleaning services	W159	0%	-
Converted paper product manufacturing	W40	75%	9,000
Retail trade	W95	0%	-
Wholesale trade	W94	0%	-
Truck transportation	W99	75%	6,000
Residential construction	W13	0%	-
Religious organizations	W166	0%	-
Hospitality and beverage serving place services	W156	92%	124
Wholesale trade	W94	0%	-
Industrial machinery manufacturing	W68	0%	-
Industrial machinery manufacturing	W68	0%	-
Textile and textile product mills	W34	92%	437
Printing and related support activities	W41	0%	-
Office administrative services	W137	0%	-
Other chemical product manufacturing	W49	0%	-
Retail trade	W95	75%	975
Retail trade	W95	92%	644
Other miscellaneous manufacturing	W93	60%	9,000
Warehousing	W106	92%	828,000

QCSM code description	QCSM code	Adjusted preservation rate	$K
Bakeries and tortilla manufacturing	W29	92%	437
Non-profit education institutions	W162	0%	-
Wholesale trade	W94	92%	3,680
Hospitality and beverage serving place services	W156	92%	920
Other non-profit institutions serving households	W167	75%	378
Converted paper product manufacturing	W40	92%	82,800
Hospitals	W172	0%	-
Hospitality and beverage serving place services	W156	0%	-
Personal care and cleaning services	W159	0%	-
Retail trade	W95	0%	-
Hospitality and beverage serving place services	W156	92%	1,840
Converted paper product manufacturing	W40	92%	82,800
Non-residential construction	W14	0%	-
Spring and wire product manufacturing	W63	92%	69,000
Hospitality and beverage serving place services	W156	0%	-
Hospitality and beverage serving place services	W156	75%	54
Hospitality and beverage serving place services	W156	75%	49
Wholesale trade	W94	92%	5,520
Offices of real estate agents and brokers and activities related to real estate	W123	0%	-
Wholesale trade	W94	92%	46
Professional and similar organizations	W160	0%	-
Converted paper product manufacturing	W40	92%	82,800
Other professional, scientific and technical services	W135	0%	-
Motor vehicle body and trailer manufacturing	W83	0%	-
Other food manufacturing	W30	92%	36,800
Retail trade	W95	0%	-
Holding companies	W136	0%	-
Hospitality and beverage serving place services	W156	75%	510
Retail trade	W95	92%	506
Motor vehicle body and trailer manufacturing	W83	0%	-
Public elementary and secondary educational institutions	W168	0%	-
Holding companies	W136	0%	-
Management, scientific, and technical consulting services	W132	0%	-
Hospitality and beverage serving place services	W156	92%	460
Waste management and remediation services	W144	60%	2,400
Hospitality and beverage serving place services	W156	92%	529
Other federal government public administration	W175	0%	-
Depository credit intermediation	W118	0%	-
Public elementary and secondary educational institutions	W168	0%	-
Hospitality and beverage serving place services	W156	92%	75

QCSM code description	QCSM code	Adjusted preservation rate	$K
Public residential care facilities	W173	0%	-
Religious organizations	W166	0%	-
Travelers accommodation	W154	92%	4,600
Hospitality and beverage serving place services	W156	75%	375
Public residential care facilities	W173	0%	-
Universities	W170	0%	-
Waste management and remediation services	W144	0%	-
Hospitality and beverage serving place services	W156	92%	1,840
Hospitality and beverage serving place services	W156	0%	-
Wholesale trade	W94	0%	-
Converted paper product manufacturing	W40	92%	82,800
Other local public administration	W177	0%	-
Hospitality and beverage serving place services	W156	92%	2,530
Travelers accommodation	W154	92%	3,220
Total expenses			2,168,154

Source(s): François Delorme Consultation, Institut de la statistique du Québec, Quebec Cross Sector Model, 2012 schedule.