This table lists the sequence that got us to the present tables, so we can retrace our steps if need be.

It is dated approximately June 2019 and hence lags behind the 2020 data.

A separate document covers the 2020 restructuring of this project

S01 etc are source data

M01 etc are mappings

|  |  |  |
| --- | --- | --- |
| ID | Spreadsheet name | Source or calculation |
| S01 |  | **Labour force survey estimates (LFS), Employment by North American Industry Classification System (NAICS) 2012, Canada, Provinces, Annual Averages, 2011 to 2016 (persons x 1,000)**  **Source: Statistics Canada, Labour Force Survey (LFS), EMP\_NAICS234\_SUBPROV.ivt.**  **This was a special order that we paid for.** |
| S02 | CI all provinces.xlsx | Original source in my directory extracted from S01 by email from Greg |
| S03 | LFS2011-2016/Imported | Extract ‘DB Export’ from S02 to S03/import  Remove column ‘CI’  Remove column ‘Description’  Add key NAICS6\_ID and calculate it  Add column ‘Indicator’ and populate this throughout with ‘Total Jobs’  Add column ‘source’ and populate throughout with ‘LFS’  Rename ‘Province’ to ‘Geography’  Geocode it from M01  Multiply item by 1000 |
| S04 | LFS2011-2016/export | Flatten S03 as follows:  Convert to Table in Insert>TABLE  Upload into the query editor using Data>From Table/Range  In the query editor, select the year columns  In the query editor, select the ‘Transform’ tab and then ‘unpivot’  Rename ‘attribute’ to ‘Year’  Rename ‘value’ to ‘item’  After closing the query editor, the table may automatically find its way into a worksheet  If not:  In the Data tab, choose ‘existing connections’  in the ‘Get and Transform Data’ Ribbon entry  Import as table |
| M01 | MAPPINGS PREPARATION/CI Jobs | Copy S02/Concordance to MAPPINGS PREPARATION/CI  Rename NAICS to 4NAICS\_ID  Delete NAICS Descriptor column  Add Column 6NAICS\_ID and populate it  Remove colouring and borders  Rename ‘crosswalked DCMS…’ to ‘Creative Industry’ |
|  |  |  |
| S06 | CI NAICS CENSUS ALL | **Census 2016 full tabulation sent by email** |
| S07 | CENSUS2016/linkedimport | Copy all the individual province records, and the Canada records  Create a single sheet called linkedimport  In this sheet, put a single header row and links to each of the province sheets  Create a column called ’Geography’ for the Alpha code of the province (AB, BC, etc)  Delete the column called ‘NAICS jobs’ (which is a descriptor)  Rename the job columns to ‘Total Jobs’, ‘Employee Jobs’ and ‘Sef-Employed Jobs’  Rename column ANAIC to 4NAICS\_ID  Create column 6NAICS\_ID and populate it by adding ‘00’ to 4NAICS\_ID  Create column ‘source’ and populate it with ‘Census’  Create column ‘year’ and populate it with ‘Year’ |
| S08 | CENSUS2016/import | Copy and paste values from SO7 to new sheet ‘import’ |
| S09 | CENSUS2016/export | Flatten S08 as follows:  Convert to Table in Insert>TABLE  Upload into the query editor using Data>From Table/Range  In the query editor, select the three job columns  In the query editor, select the ‘Transform’ tab and then ‘unpivot’  In the query editor, rename ‘attribute’ to ‘indicator’  In the query editor, rename ‘value’ to ‘item’  If the data doesn’t find its way into a worksheet on closing the Query Editor:  In the Data tab, choose ‘existing connections’ in the  ‘Get and Transform Data’ Ribbon entry  Rename the sheet to ‘flat’ |
|  |  |  |
| M02 | MAPPINGS PREPARATION/Geography | Extracted from S03 by brute force |
|  |  |  |
| S11 | Source Nominal GDP | All from table 379-0030 Gross domestic product (GDP) at basic prices, by North American Industry Classification System (NAICS), provinces and territories (nominal, goes up to 2014)  a)Flat file cansim6082170799206278188 (GDP nominal).csv  b) Vector format 03790030-eng.csv  c) With industry codes mixed up in the titles cansim-3790030-eng-1169592680671461824.csv |
| S12 | Source real GDP | cansim3887594124427469783 (GDP 2007 chained).csv, from table 379-0030 Gross domestic product (GDP) at basic prices, by North American Industry Classification System (NAICS), provinces and territories (Chained 2007, goes up to 2014) |
| M03 | NAICS 2012 to IOIC Concordance.xls | **Source: sent by Mark McDonald** |
|  |  |  |
| S14 | GDP REAL/import | S12 as input  Heading change ‘value’ to ‘indicator’  Heading change ‘North American Industry Classification System (NAICS)’ to ‘Source Description’  Extract codes in square brackets using kutools to ‘Extracted Code’  Recode’Extracted Code’ to ‘IOIC Code’ using the formula ="BS"&E2&LEFT("000000",6-F2)  Remove all rows whose codes begin with T (these are totals)  Insert new ‘source’ column and populate with CANSIM 379-0030  Convert to an Excel Table and load into the Query Editor  Transform and unflatten the data as described in S14 in the Query editor, and rename the sheet ‘IOIC’ |
| M04 | MAPPINGS PREPARATION/IOICsource | Copy M03 to this sheet and create the 6NAICS\_ID code within it |
| M05 | MAPPINGS PREPARATION/IOICCactual | Copy M03/IOIC to this sheet, and create a list of unique codes. This is to see if there are mismatches  Convert IOICsource to a table  Load into query editor and check for unmatched  Puzzle that additional row appears with null fields; also that query editor says’872 matched out of first 912 rows’ yet ‘right anti’ join retrieves no results |
| S20 | GDP REAL/import\_flattened | Transformed within S14 |
| M06 | GDP and Jobs.xlsx | **Source for NAICS mappings; stored in ‘mappings’ directory because it’s so important.**  **Not sure where everything in this came from but it’s my main coding file** |
| M07 | MAPPINGS PREPARATION/NAICSall | Copy ‘Whole NAICS’ from M06 |
| M08 | MAPPINGS PREPARATION/IOICaugmented | Added dummy ‘repeat total’ NAICS codes for all the missing IOIC entries, because that’s what they are |
| M09 | MAPPINGS PREPARATION/NAICS GDP Main Industry Map | Copied the Main Industry map from M06 |
| M10 | MAPPINGS PREPARATION/GDP CI NAICS | Copied the GDP CI NAICS sheet from M06 |
| M11 | MAPPINGS PREPARATION/NAICS Jobs Main Industry Map | Copied NAICS Jobs Main Industry Map from M06 |
| M12 | MAPPINGS/Geography | Copied from M06 |
| M13 | MAPPINGS/Creative Industries Detail | Amalgamates CI Jobs from M01 and CI GDP from M10; contains full notes |
| M13A | MAPPINGS/Creative Industries IOIC | Reduces M13 by removing all except coding for IOIC |
| M14 | MAPPINGS/IOIC-NAICS | Augmented concordance, copied from M08. Added 3-digit IOIC codes |
| M14a | MAPPINGS/IOIC-TITLES-CODER | Reduced M14 which allows us to map S22 titles into IOIC codes |
| M15 | MAPPINGS/Main Industry Master Map | Assembled in MAPPINGS PREPARATION so that it refers to 3-digit IOIC codes and2-digit NAICS codes |
|  |  |  |
| S21 | GDP/real | Copied from S20 |
| S22 | **Productivity and hours source** | **Statcan website, series 383-0033 “Labour productivity and related measures by business sector industry and by non-commercial activity consistent with the industry accounts, provinces and territories”, Downloaded with settings all provinces, all years, indicators jobs, real value added, nominal value added, real value added, labour compensation, total compensation, all industries**  **http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=3830033&p2=33** |
| S23 | 383-0033 nominal and real.xlsx | S22 download nominal and real in S22  Trimmed and coded with 6IOIC codes |
| S24 | **Alternative to get at the productivity and hours data** | Start point is the raw total file 03830033-eng.csv which is not coded with IOIC, but has industry names and ‘vectors’  <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=3830033&p2=33> |
| M16 | MAPPING\_PREPARATION/Uncoded | Load S24 directly into a table and deduplicate it to obtain a list of the titles |
| M17 | MAPPINGS/IOIC-NAICS | Load M03 into the query editor. This contains a list of titles matched to IOIC codes  Merge with M16 to find the unmatched titles.  Add these at the end of M14.  All these titles are summaries and have no IOIC code; they are present for completeness, and have been given the special code ‘UNCODED’ |
| M17a | MAPPINGS/IOIC-TITLES-CODER | Copy M17 and remove all columns except the IOIC title and the IOIC code. This lets us convert the titles in S25 to IOIC codes |
| M18 | MAPPING IOICC-NAICS | Fresh start on mapping IOIC to NAICS and to titles. |
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| S25 | CANSIM383-0033(Productivity and Hours)/ReducedCoded | S24 with selected indicators  Coded with IOIC codes using M17a |
| **The final outputs** | | |
| F1 | CANSIM-0833 CI and MAIN all indicators/import | S25 copied and pasted |
| F2 |  |  |

Layout:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Indicator** | **GeoCode** | **Geography** | **6NAICS\_ID** | **4NAICS\_ID** | **Year** | **Item** |

Geocodings

| **GeoCode** | **Geography** |
| --- | --- |
| AB | Alberta |
| BC | British Columbia |
| Canada | Canada |
| MB | Manitoba |
| NB | New Brunswick |
| NL | Newfoundland and Labrador |
| NS | Nova Scotia |
| ON | Ontario |
| PEI | Prince Edward Island |
| QC | Quebec |
| SK | Saskatchewan |
| NUN | Nunavut |
| NWT | North West Territories |
| YU | Yukon |