

BEFORE THE SURFACE TRANSPORTATION BOARD

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CANADIAN PACIFIC RAILWAY LIMITED, ET AL. – CONTROL – KANSAS CITY SOUTHERN, ET AL.

CPKC’S PETITION RESPECTING MEXICAN INFLATION-ADJUSTED INDEX

Pursuant to the Board’s invitation in Decision No. 35 (at 78 n.131) to “petition the Board for use of an alternative inflation-adjusted index for application to movements in Mexico,” CPKC hereby requests that, for purposes of the conditions adopted in Decision No. 35, where necessary to apply a rate of inflation to transportation within Mexico, the Board use Mexico’s so-called “Core CPI” index – specifically “Índice Nacional de Precios al Consumidor (“INPC”), Subyacente”¹ – as reported by Mexico’s National Institute of Statistics, Geography and Informatics (INEGI).² INEGI’s CPI indices for Mexico are roughly equivalent to the U.S. CPI statistics generated by the Bureau of Labor Statistics in the Department of Labor.

As explained in the Verified Statement of Dr. Aslan Cohen, Eduardo Scola, and Maria Fernanda de la Vega, of ALEF Consultores (“Cohen/Scola/de la Vega V.S.”),³ INEGI’s Core CPI index provides a more appropriate measure of changes over time in rail input costs *within*

¹ This translates as National Consumer Price Index, Core. The data are available at https://www.inegi.org.mx/app/tabulados/default.aspx?nc=ca55_2018&idrt=137&opc=t.

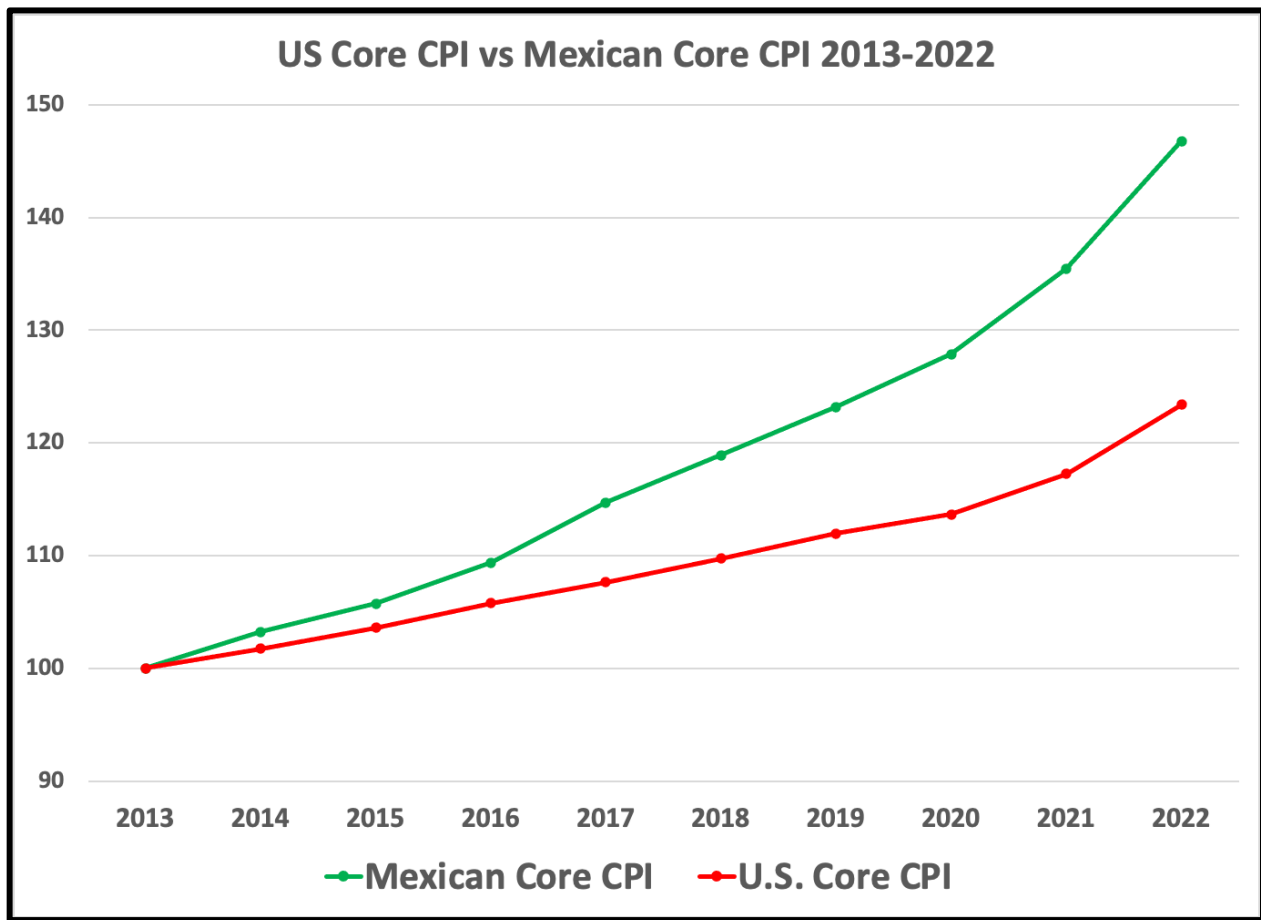
² The acronym “INEGI” derives from the Institute’s name in Spanish: Instituto Nacional de Estadística, Geografía e Informática. INEGI is a neutral, quasi-governmental body responsible for regulating and coordinating Mexico’s National System of Statistical and Geographical Information, as well as for collecting and disseminating information about Mexico in terms of territory, resources, population and economy.” See https://www.inegi.org.mx/inegi/quienes_somos.html.

³ The other factual content of this Petition is verified by Anastasia Palitsyna Austin, CPKC’s Assistant Vice President, Sales & Marketing Services.

Mexico than the AAR's All-Inclusive Index or All-Inclusive Index Less Fuel. Cohen/Scola/de la Vega V.S. at 3-19.

First, use of an alternative inflation index measure for Mexico is important because Mexican inflation does not track closely with U.S. inflation rates. Until the recent uptick in inflation in the United States, Mexican inflation has historically been materially greater than in the United States. As explained in the Cohen/Scola/de la Vega Verified Statement (at 3-10), Mexican Core CPI is well accepted as the “best measure to accurately reflect Mexico’s long term historic inflation trends.” *Id.* at 10. As revealed by a comparison of that metric with its counterpart for the United States – U.S. Core CPI – over the past ten years, U.S. inflation is a poor proxy for inflationary trends in Mexico. To illustrate this, Figure 1 below plots, for the period since 2013, movements in Core CPI for both the United States and Mexico, with the figures for 2013 indexed to 100. As is evident in Figure 1, Mexican Core CPI (the green line) has increased markedly faster than U.S. Core CPI (the red line).

FIGURE 1

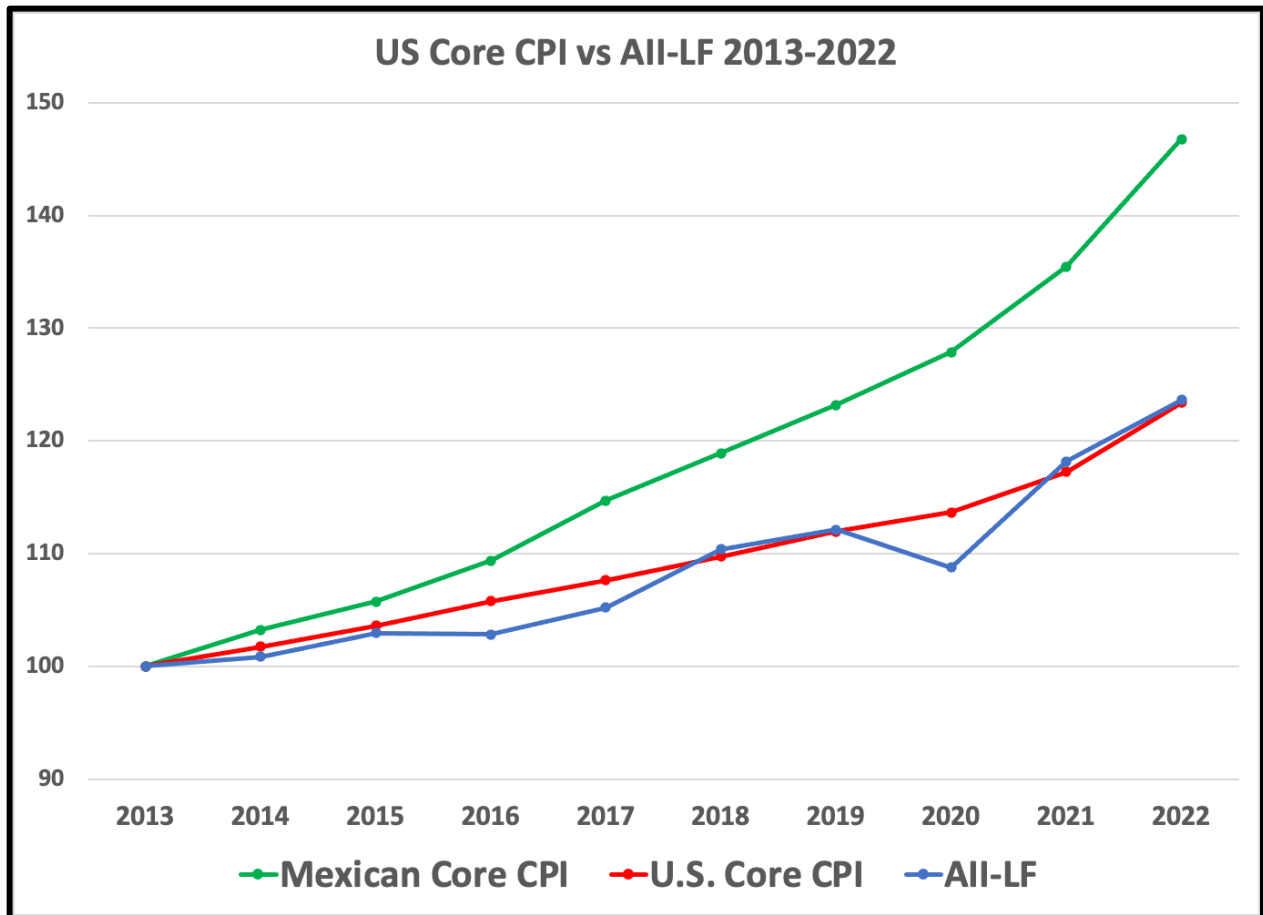


Second, as also explained by Cohen/Scola/de la Vega (V.S. at 10-19), Mexican Core CPI also offers the best counterpart to AII-LF as a means of capturing changes in input costs (excluding fuel) for rail transportation services provided in Mexico. There is no exact counterpart to AII-LF in Mexico, but Mexican Core CPI is the best available – and very good – means of tracking changes over time in non-fuel input costs in Mexico.

A further indication of the appropriateness of Mexican Core CPI is the fact that U.S. Core CPI – the counterpart to Mexican Core CPI – tracks AII-LF quite closely over time, as shown in Figure 2 below. U.S. Core CPI (shown in red) is closely aligned with AII-LF (shown in blue), and neither are aligned with Mexican Core CPI. Since Mexican Core CPI and U.S. Core CPI are quite comparable as measures of inflation, this validates the point that Mexican Core CPI offers

an appropriate method for mimicking the movements in input costs that would be captured by a Mexican version of AII-LF, were one to exist. *Id.* at 14-16.

FIGURE 2



The suitability of Mexican Core CPI as a metric for use in assessing movements in future rail rates charged by CPKC for transportation within Mexico is further validated by the fact that KCSM has traditionally used all-in Mexican CPI (*e.g.*, inclusive of fuel) for purposes of its filings with Mexican regulators to establish the so-called Tuce rates (pronounced “two-say”), which are the maximum rail rates that may be charged under Mexican law for particular movements. Those Tuce rates include fuel, which is why the all-in CPI (rather than core CPI, which excludes fuel) is used in this context. Since linehaul rates negotiated with customers for CPKC movements in Mexico typically exclude fuel, with fuel cost volatility covered by a

separate fuel surcharge program, use of Mexican Core CPI – as the counterpart to AII-LF in the United States – is the appropriate metric for purposes of the conditions imposed by the Board in this case.

CONCLUSION

For the foregoing reasons, for purposes of the conditions imposed in Decision No. 35, for transportation within Mexico the Board should use as an alternative measure of inflation Mexico's Core CPI index as reported by INEGI.

Respectfully submitted,



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May 30, 2023

VERIFICATION

I Anastasia Palitsyna Austin declare under penalty of perjury under the laws of the United States that the factual statements in the foregoing Petition are true and correct. I further certify that I am qualified and authorized to verify those statements.

Executed on this 30th day of May, 2023.



Anastasia Palitsyna Austin
AVP Sales & Marketing Services

CERTIFICATE OF SERVICE

I hereby certify that I have caused the foregoing CPKC's Petition Respecting Mexican Inflation-Adjusted Index to be served electronically or by first class mail, postage pre-paid, on all parties of record in this proceeding.

/s/ Sonia Gupta
Sonia Gupta

May 30, 2023

BEFORE THE SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 36500

CANADIAN PACIFIC RAILWAY LIMITED, ET AL. – CONTROL – KANSAS CITY SOUTHERN, ET AL.

**Verified Statement of ALEF Consultores,
By Dr. Aslan Cohen, Lic. Eduardo Scola and
Mtra. Maria Fernanda de la Vega**

We are Dr. Aslan Cohen, Mr. Eduardo Scola and Professor Maria Fernanda de la Vega.

We are principals of ALEF Consultores, an economic and financial consulting firm based in Mexico City. Our business address is Mario Pani 750, Floor 5, Office 5-A, Santa Fe Colony, Del. Cuajimalpa de Morelos, 05348 Mexico City. A statement of our individual qualifications is attached as Appendix A.

The purpose of this statement is to explain the validity of Mexico's Core CPI as a measure of the Mexican economy's inflation rate, and to discuss the superiority of Mexico's Core CPI to the Association of American Railroads' All-Inclusive Index – Less Fuel as a means to accurately reflect Mexico's historic inflation trends and the cost changes that will be incurred by Kansas City Southern de Mexico, S.A. de C.V. ("KCSM").

1. Introduction

In the wake of Kansas City Southern being acquired by Canadian Pacific Railway Limited (now Canadian Pacific Kansas City Limited – "CPKC"), and pursuant to authorization in March 2023 by the U.S. Surface Transportation Board ("STB"), the STB's authorization came with some conditions.

To our best understanding, one condition deals with inflation rates, because the STB's decision requires CPKC to provide a binding written explanation to shippers of rate increases that

may be proposed in the next 7 years on certain routes, if the increase exceeds the rate of inflation. The STB assumed that the Association of American Railroads' ("AAR") All Inclusive Index-Less Fuel ("AII-LF") would be used to measure inflation, unless CPKC filed a request for the STB to allow CPKC to use a different inflation index for Mexico.

In this context, we have been asked to provide an expert opinion on (1) which is, to the best of our knowledge, the economic price index that more accurately reflects Mexico's long term historic inflation trends, and (2) if such an economic price index is superior in its attributes to the AII-LF, when it comes to representing the supply and reflecting the cost structure of the services provided by a firm such as CPKC's KCSM.

Accordingly, our working hypothesis can be formulated in the following terms:

1. In general, Mexico's Core Consumer Price Index ("*Índice de Inflación Subyacente*" or "Core CPI")¹ tends to be the best measure to accurately reflect Mexico's long term historic inflation trends.
2. In particular, Mexico's Core CPI appears to be superior in its attributes, and a better option than the AAR's AII-LF, when it comes to representing the supply and reflecting the cost structure of the services provided by a firm such as KCSM.

¹ The original and official publication of Mexico's Core Consumer Price Index (Subyacente) comes from a reliable institution called the INEGI (Instituto Nacional de Estadística y Geografía), and can be consulted in its website, under the following Link:
https://www.inegi.org.mx/app/tabulados/default.aspx?nc=ca55_2018&idrt=137&opc=t

2. Mexico's Core CPI, the best measure to accurately reflect Mexico's long term historic inflation trends.

In Mexico, the Instituto Nacional de Estadística y Geográfica ("INEGI") produces a myriad of general price indexes used to measure inflation, whether it is to keep track of final consumer purchasing power (within the realm of the National Consumer Price Index, "General CPI" or "INPC" and all the family of its sub-indexes); or whether it is to monitor price dynamics of different products and services within different stages of the production-value chain (within the realm of the National Producer Price Index or "INPP" and all the family of its respective sub-indexes). The latter, including some industry specific indexes comprised of, among other things, the price baskets of agriculture, mining, electricity, water supply, construction, oil, manufacturing, among others.²

The rate of change of the General CPI from one period to another is largely accepted in Mexico as the best generalized, known, and standard way to measure inflation for institutional purposes;³ since, among other things, inflation is usually *defined* as the change in the General CPI for all types of economy-wide contracts. To measure inflation over time, INEGI monitors 235,000

² INEGI (2019). National Producer Price Index, Methodological Document, Base second fortnight of July 2019. P. 26, Retrieved from [https://www.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/702825188849.pdf]

³ National Institute of Statistics and Geography of Mexico. (2018). National Consumer Price Index, Methodological Document, Base second fortnight of July 2018 ("July 2018 Methodological Document"), page 180, Retrieved from [https://www.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/702825104177.pdf].

prices in 46 cities within the country,⁴ measuring every two weeks (and monthly),⁵ the variation in prices for a fixed basket of goods and services that is representative of the consumption of the country's households.⁶

Having said that, the relatively high proportion of the country's household consumption, of decidedly volatile and highly seasonal goods and services, is responsible for the particularly variable nature of the General CPI.

To resolve this problem, INEGI breaks the General CPI down into two large groups: those goods and services with relatively more stable prices, and those with more volatile or seasonal prices. The percentage change of the resulting two indexes gives rise to what is known as core and non-core inflation, respectively. In particular and more specifically, the Core CPI is intended to measure core inflation, considering only the goods and services whose prices are not affected by seasonal influences, high volatility or administrative decisions⁷ (these goods and services include, on the one hand, merchandise, which are essentially food, beverages, tobacco and non-food goods; and on the other hand, services, which include prices related to education (tuition), housing and other services).⁸

⁴http://educa.banxico.org.mx/infografias_y_fichas/inflacion_infografias_/que-es-inflacion-como-se-mide.html#:~:text=Para%20medir%20la%20inflaci3n%2C%20cada,el%20consumo%20de%20las%20familias

⁵ July 2018 Methodological Document, page 180.

⁶http://educa.banxico.org.mx/infografias_y_fichas/inflacion_infografias_/que-es-inflacion-como-se-mide.html#:~:text=Para%20medir%20la%20inflaci3n%2C%20cada,el%20consumo%20de%20las%20familias

⁷ July 2018 Methodological Document, page 180.

⁸ Id., page 17.

Thus, the Core CPI is designed to eliminate from the estimation of the General CPI, those types of goods and services whose price determination process is not a clear function of market conditions or is influenced by the State (tariffs that are authorized at different levels of government, for example);⁹ goods and services whose prices are decidedly volatile due to low volume markets or exogenous factors (particularly, oil and gas derived energy products); or goods and services whose prices are affected by seasonal influences, with a specific emphasis in the exclusion of agricultural products.¹⁰ Therefore, by virtue of its own specific purpose, Core CPI is overtly designed to follow the same inflationary trends as the General CPI, but to be notoriously less volatile.¹¹

Accordingly, Core CPI is a much more robust indicator than General CPI, especially if the purpose is to capture less reversible long term historic inflation trends in the economy,¹² by excluding highly volatile elements such as energy prices and oil derived products. By eliminating weight components that can experience abrupt changes due to exogenous factors, a more stable and reliable measure of long-term inflation is obtained,¹³ focusing on overall price behavior, and providing a more accurate picture of inertial price developments in the Mexican economy.¹⁴

A relevant research document regarding the topic at hand, is the investigative paper from the General Directorate of Economic Research at the Mexican Central Bank (Banco de México),

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https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2023/inpc_2q/inpc_2q2023_01.pdf

¹⁰ July 2018 Methodological Document, page 180.

¹¹ Id..

¹² Id.

¹³ Torres García, A. (2003). A Statistical Analysis of the Relationship between General Inflation and Core Inflation in Mexico. General directorate of economic research, Banco de México ("Banco de México 2003 Statistical Analysis"), page 26.

¹⁴ Id.

entitled “*A statistical analysis of the relationship between headline and core inflation in Mexico*” by A. Torres Garcia.¹⁵ In this research paper, the author analyzes at length, some of the more relevant statistical properties that characterize the quantitative relationship between general and core inflation in Mexico, with the explicit purpose of “*identifying whether core inflation is a good approximation to the variations in the general price level, that is, to the variations that are common to all prices in the economy*”.¹⁶

In this regard, the starting point for the author corresponds to the establishment of what is understood by general and core inflation. The author proceeds to define both concepts, stating that “*general inflation is understood as that which is calculated based on the National Consumer Price Index*”.¹⁷ Likewise, the author points out that with regard to core inflation, “*several definitions are examined with the purpose of identifying its capacity to approximate inflation of the general price level of the Mexican economy*”,¹⁸ in spite of the fact that core inflation is a much less volatile indicator.

¹⁵ Banco de México 2003 Statistical Analysis.

¹⁶ Free expert’s translation: “[...] *identificar si la inflación subyacente es una buena aproximación a las variaciones en el nivel general de precios, es decir, a las variaciones que son comunes a todos los precios de la economía.*” Torres García, A. (2003). A Statistical Analysis of the Relationship between General Inflation and Core Inflation in Mexico. General directorate of economic research, Banco de México. P. 2.

¹⁷ Free expert’s translation: “*por inflación general se entiende aquélla que se calcula a partir del Índice Nacional de Precios al Consumidor [...]*” Torres García, A. (2003). A Statistical Analysis of the Relationship between General Inflation and Core Inflation in Mexico. General directorate of economic research, Banco de México. P. 9.

¹⁸ Free expert’s translation: “[...] *se examinan varias definiciones con la finalidad de identificar su capacidad para aproximar la inflación del nivel general de precios de la economía mexicana.*” Torres García, A. (2003). A Statistical Analysis of the Relationship between General Inflation and Core Inflation in Mexico. General directorate of economic research, Banco de México. P. 9.

Within the framework of the different definitions for core inflation, the author starts with the proposition of analyzing three initial definitions that correspond to those used by Mexico's central bank to calculate core inflation, namely, (1) total core inflation, (2) services core inflation and (3) merchandise core inflation.¹⁹ In this context, the author points out that according to Mexico's central bank, total core inflation "*is the one that, in addition to being simple, best approximates the trend of general inflation*".²⁰ Notwithstanding, the author adds 5 additional definitions to his inquiry, pertaining to combinations of the initial definitions, in which one or more of the following sub-indexes are excluded: agricultural, administered and concerted, and education.²¹ Finally, the author adds an illustration of two more definitions, that use specific information from the INPP.²²

Within this setting, the author performs his analysis for two different monthly and seasonally adjusted²³ time samples, in which general and core inflation are evaluated, the first one being the period from 1996 to 2002, and the second one covering the years from 1983 to 2002.²⁴ Within these time intervals, the author appraises the performance of each of the stated definitions for core inflation, in terms of (1) their ability to approximate the trend behavior of general inflation; and (2) their ability to anticipate the future behavior of general inflation.²⁵

¹⁹ Banco de México 2003 Statistical Analysis, page10.

²⁰ Free expert's translation: "[...] *es la que, además de ser sencilla, mejor aproxima la tendencia de la inflación del INPC.*" Torres García, A. (2003). A Statistical Analysis of the Relationship between General Inflation and Core Inflation in Mexico. General directorate of economic research, Banco de México. P. 10.

²¹ Banco de México 2003 Statistical Analysis, page 10.

²² Id.

²³ Id.

²⁴ Id.

²⁵ Id., page11.

To do this, the author uses a mainstream concept known as the Mean Square Error (MSE) criterion, to analyze the capacity of the different definitions of core inflation to approximate the trend of general inflation.²⁶ The results within that particular indicator contest, showed that for the 1996-2002 period, services core inflation was the one that best approximated the trend of general inflation,²⁷ while for the 1983-2002 period, the best approximation was found to be the definition that excludes education prices and administered and concerted prices from the General CPI.²⁸ Having said this, it turns out to be that in general terms, the author found that “*total core inflation is located in both periods among the definitions that best approximate the behavior of the general inflation trend*”.²⁹ The author makes sure to point out that this result is due to the fact that the definition of core inflation is, as was explained previously, designed with the purpose of eliminating the most volatile components from the general inflation.³⁰ A conclusion that is most likely to remain the same, to this date, regardless of the time periods covered by the author’s specific sample.

Now, regarding the capability of the different definitions of core inflation to anticipate the future behavior of general inflation, the author proposes a first approach by means of the correlation coefficients between the core inflation particular realizations, and the trend of general inflation that occurred in their future.³¹ According to the author, this is done to the extent that the

²⁶ Id., page 12.

²⁷ Id.

²⁸ Id.

²⁹ Free expert’s translation: “[...] *la inflación Subyacente Total se ubica en ambos periodos entre las definiciones que mejor aproximan el comportamiento de la tendencia de la inflación del INPC.*” Banco de México 2003 Statistical Analysis, page 13.

³⁰ Id.

³¹ Id.

use of the trend of general inflation makes it possible to isolate its future behavior from future changes in relative prices, that have the potential to modify it substantially.³² In this regard, it was found that for the two study periods, the definition of total core inflation is located among those with the highest levels of correlation with the trend of general inflation.³³

On top of this, the author's second approach to analyze the ability of the different definitions of core inflation to anticipate the future behavior of general inflation, involves the use of a linear regression to determine the degree to which each candidate definition of core inflation could fit to anticipate the future behavior of general inflation.³⁴ His results find that "*total core inflation represents a good approximation to changes in the general price level [...] and that the aggregate effect of changes in relative prices on total core inflation is minimal*".³⁵

Thus, by dissecting some of the most relevant statistical properties of the relationship between general inflation and core inflation in Mexico, the analysis of A. Torres Garcia is a very illustrative inquiry for the purpose of the stated hypothesis in the present statement. Prone to still be relevant to this day, it is our contention that his main finding persists, in that "*the definition of core inflation used by [Mexico's central bank], referred to [...] as total core, represents a good*

³² Id.

³³ Id., page 14.

³⁴ Id., page 15.

³⁵ Free expert's translation: "[...] *la inflación Subyacente Total representa una buena aproximación a las variaciones en el nivel general de precios [...] y que el efecto agregado de las variaciones en precios relativos sobre la inflación Subyacente Total es mínimo.*" Banco de México 2003 Statistical Analysis, page 17.

*approximation to the variations in the general price level, that is, to the variations that are common to all prices in the economy”.*³⁶

Thus, our assertion remains that in general, Mexico’s Core Consumer Price Index, the Core CPI, tends to be the best measure to accurately reflect Mexico’s long term historic inflation trends.

3. Mexico’s Core CPI is superior in its attributes to the AII-LF, when it comes to representing the supply and reflecting the cost structure of the services provided by a firm such as KCSM.

Having covered our contentions pertaining to the question of which is, to the best of our knowledge, the economic price index that more accurately reflects Mexico’s long term historic inflation trends, it is possible to turn our attention to the second part of our stated inquiry. Namely, if the Core CPI is superior in its attributes to the AII-LF, when it comes to representing the supply and reflecting the cost structure of the services provided by a firm such as KCSM.

3.1 The AII-LF

As a function of a U.S. railroad cost index, it is our understanding that the AII-LF is derived from one of the STB’s Rail Cost Adjustment Factors (RCAF), which are a family of STB-created

³⁶ Free expert’s translation: “*la definición de la inflación subyacente utilizada por el Banco de México, denominada [...] como Subyacente Total, representa una buena aproximación a las variaciones en el nivel general de precios, es decir, a las variaciones que son comunes a todos los precios de la economía.*” Banco de México 2003 Statistical Analysis, page 26.

cost indexes³⁷ created for regulatory purposes,³⁸ generically intended to “[measure] the rate of inflation in railroad inputs [in the U.S.] such as labor and fuel”,³⁹ and for which the AAR calculates quarterly estimates, submitting them to the STB, for its review, approval and ultimate publication.⁴⁰ In particular, the AII-LF represents a specific function of one of the RCAFs (*the actual All-Inclusive Index*), from which fuel costs are subtracted. That is to say, the AII-LF is the *actual All-Inclusive RCAF Index* minus fuel costs, and as a linear function of a RCAF, it is sure to inherit many (if not all) of the relevant methodological features of the RCAFs.

Accordingly, it is our understanding that the AII-LF shares (since it is also derived from) most of the “weights used to combine the seven component indexes that comprise the *All-Inclusive Index*, as well as the weights used within certain components” and that “are based on freight operating expenses plus fixed charges”.⁴¹ These seven component indexes, which are weighted together to form the All-Inclusive Index, are the following:

³⁷ There are actually five indexes associated with the RCAF: “(1) *the forecasted All-Inclusive Index — the price index that underlies the RCAF*; (2) ***the actual All-Inclusive Index*** — calculated when data become available; (3) *the RCAF (Unadjusted)* — derived by adjusting the forecasted All-Inclusive Index by the “forecast error” from the second prior quarter; (4) *the RCAF (Adjusted)* — derived by modifying the RCAF (Unadjusted) for a moving five-year productivity gains as soon as the latest year of productivity is available; and (5) *the RCAF-5* reflects a five-year moving average productivity adjustment factor which is incorporated into the index during the first quarter of each year”. Source: Association of American Railroads (AAR), Sept. 2022. “RAIL COST ADJUSTMENT FACTOR”. Page 1.

³⁸ Association of American Railroads (AAR), Sept. 2022. “RAIL COST ADJUSTMENT FACTOR” (“AAR RCAF, Sept. 2022”). Page 1.

³⁹ Id.

⁴⁰ Id.

⁴¹ Id.

1. **Labor:** *“The labor index reflects changes in the average unit price of wages and wage supplements (fringe benefits)”. The wage and wage supplements indexes are weighted together to derive the labor index:*^{42, 43}
 - a. *The unit price of wages consists of two major components: the hourly rate for straight time compensation (STHR), which is straight time compensation divided by straight time hours paid for, and the hourly rate for pay for time not worked (PFTNW) (vacation, holidays, etc.), which is PFTNW compensation divided by straight time hours paid for...”*.
 - b. *“The wage supplements component is comprised of contributions for health and welfare benefits, payroll taxes for Railroad Retirement and Medicare, supplemental annuities, and unemployment insurance, and other wage supplements...”*.
2. **Fuel:** *“The fuel index [which to the best of our understanding, is subtracted from the All-Inclusive RCAF Index to obtain the All-LF] represents the change in the average price per gallon of No. 2 diesel fuel paid by the largest railroads [...] the price includes Federal excise taxes, transportation, and handling charges. The index reflects the original purchase price of fuel charged to railroad operating expenses during the middle month of the quarter”.*⁴⁴
3. **Materials and Supplies:** *“measures changes in the prices of a market basket of 38 items that represent the preponderance of purchases by the six largest railroads. The price of*

⁴² Id., pages 2 and 3.

⁴³ *“The source of the labor data are the Wage Statistics and the R-1 annual reports, both of which are filed with the STB by the Class I railroads”.* Id., page 3.

⁴⁴ AAR RCAF, Sept. 2022, page 3.

*each item at each railroad is converted to an index, and these individual railroad item indexes are weighted together to form an overall index for the item. Next, item indexes are weighted to form indexes by category [...] and these are weighted to derive the overall materials and supplies index. Weights at each stage are based on purchases for the most recent year...".*⁴⁵

4. **Equipment Rents:** With two components, car hire and lease rentals:⁴⁶

- a. *"The car hire index is a weighted average of car hire rates for various car types obtained from the Car Hire Rate Master File (CHARM).*
- b. *The lease rentals component is indexed by the change in the Producer Price Index for Industrial Commodities less Fuel and Related Products and Power (PPI-LF)".*

5. **Depreciation:** *"The depreciation index uses, as a surrogate, the Producer Price Index for Rail Equipment".*⁴⁷

6. **Interest:** *"measures, [...] the embedded cost of railroad debt, i.e., total interest expense divided by average total long-term debt".*⁴⁸

Other Expenses: *"[U]ses the Producer Price Index for Industrial Commodities less Fuel and Related Products and Power as a surrogate", including purchased services, casualties and insurance, loss and damage, taxes other than income and payroll, as well as general and administrative expenses.*⁴⁹

3.2 Mexican Core CPI over the AII-LF

⁴⁵ Id.

⁴⁶ Id.

⁴⁷ Id.

⁴⁸ Id.

⁴⁹ Id., page 4.

Clearly, since it is derived from one of the referred RCAFs (*the actual All-Inclusive Index*), and to the extent that this index is overtly intended to “*reflect the changing composition of railroad costs, including the quality and mix of material and labor*”;⁵⁰ the AII-LF is a function of an industry specific index that is explicitly designed to measure the rate of growth of a very particular mix of U.S. railroad costs.

Unfortunately, it is this particular set of features from the AII-LF, and its exclusive design to reflect the industry specific cost conditions that occur within the *U.S. operation* of Class I railroads,⁵¹ that imply that the AII-LF’s performance (as good as it may be to mimic the U.S. operation of a generic railroad enterprise), embodies an external, exogenous and inadequate reference for the reflection of Mexican macroeconomic conditions in general, and thus, for the satisfactory representation of the particular cost structure of a firm such as KCSM.

Needless to say, a hypothetical Mexican version of the AII-LF would probably be the best option to reflect the cost structure of a firm such as KCSM, if it provided a similar methodology with the Mexican input equivalents for labor, fuel (subtraction), materials and supplies, equipment rents, and so on. However, such a railroad-specific index does not exist for Mexico. Having said that, it is also a fact that many of the same items that appear in the AII-LF are also included in the Mexican price indexes and the composite sub-indexes that are published by INEGI, but in particular reflection of Mexican macroeconomic conditions, and in a manner that applies the

⁵⁰ Id., page 1.

⁵¹ Id.

weights that are derived from the input mix and consumption patterns of the broader Mexican economy.⁵²

More specifically, as a proven alternative that is notably better than the General CPI to accurately reflect Mexico's long term historic inflation trends, the Mexican Core CPI is not only a prominent metric to reflect Mexican macroeconomic features, using many of the same items that are included in the General CPI, but it does so by keeping in check any disproportionate volatility that is unnecessary for the intent of reflecting the railroad industry's cost structures (by removing agricultural goods, for example), and no less importantly, by providing a better degree of the metric's availability with a more detailed periodicity (the RCAF is calculated quarterly,⁵³ whereas the Core CPI is published monthly).

Moreover, given that the Core CPI is well known for removing key components that make up for oil and gas derived energy products from the General CPI, precisely due to their high underlying volatilities, it is also expected to be fairly effective in mimicking the effect that is intended with the subtraction of fuel from the *All-Inclusive RCAF Index*, to produce the AII-LF. In other words, since one of the main railroad costs (fuel) is removed from both the AII-LF and the Core CPI, they are both expected to be good approximations for the costs (and their trends)

⁵²http://educa.banxico.org.mx/infografias_y_fichas/inflacion_infografias_/que-es-inflacion-como-se-mide.html#:~:text=Para%20medir%20la%20inflaci%C3%B3n%20cada,el%20consumo%20de%20las%20familias

⁵³ “The AAR submits to the STB the forecast for the following quarter on the fifth day of the last month of each quarter (e.g., the fourth quarter forecast is submitted on September 5). The STB issues a decision approximately 15 days later, i.e., around the 20th of the month, in order that the required ten-day period is available for notice of rates that the railroads wish to change on the first day of the forecast quarter. There is no official annual RCAF, although the four quarterly indexes are sometimes averaged for comparison with other inflation indexes”. AAR RCAF, Sept. 2022, page 2.

incurred by a firm such as KCSM. The former with regards to its U.S. operation, and the latter in reflection of its Mexican operation.

Thus, with these features in mind, any endeavor to select a metric that is intended to reflect the cost structure of a firm such as KCSM is faced with a predicament between choosing (1) an industry specific metric (the AII-LF) that applies to railroads' costs structures, but reflects them exclusively for the U.S.; or (2) a country specific measure (the Core CPI) that reflects Mexican input and consumption mixes. Since both metrics comply with the removal of fuel item *proxies*, the referred trade-off leaves no room for mistakes: over any possible advantage regarding industry specificity in the U.S., it is far more important to reflect country conditions in the operations of a firm such as KCSM, because in this particular case, the AII-LF is entirely devoid of any features that would allow it to reflect Mexican macroeconomic conditions.

And in this very specific sense, a particular feature of the Mexican economy stands out to illustrate the inadequacy of the AII-LF, to reflect macroeconomic phenomena that have direct influence over the cost structures of a firm such as KCSM. Namely, the rate and degree to which any exchange rate depreciation has effects on inflation (what is known as the *Exchange Rate Pass-Through*), and its role as a *proxy* variable for one of the most important elements in the country's sovereign risk.

Ex ante, as it is very well known, a common (*forward-looking*) way to measure a country's risk is through its sovereign risk-free rate, or a particular rating, compiled through an analysis of various qualitative and quantitative factors of a country, and provided by the main global rating agencies. *Ex post* however, one of the most visible (*backward-looking*) manifestations of the idiosyncratic risk associated to any open economy, is the rate and extent to which an exchange rate depreciation can increase inflation and its corresponding expectations, for the determination of all

economy-wide contracts and costs. That is to say, the degree to which any observed depreciation in the nominal exchange rate of an open economy, is first reflected on tradeable (imported) goods inflation, then on inflation expectations, and finally on more subsequent general inflation, is one of the main determinants of medium and long-term cost structures in local currency, over the entirety of any open economy, regardless of industry.

In the medium and long term, insofar as Mexican Core CPI is perfectly able to reflect the observed historical effects of any exchange rate depreciation, on the general price level of the economy and the cost structure of a firm such as KCSM, it will starkly distinguish itself from the obvious inability of the AII-LF to reflect this particular phenomenon. To see this, it is important to broaden our discussion of what *Exchange Rate Pass-Through* is, to what extent it exists in the Mexican economy, and what are its main features.

In the context of a small and open economy with free capital mobility, as is the case of the Mexican economy, the *Exchange Rate Pass-Through* (ERPT) is defined as the effect of nominal exchange rate variations on inflation, and can be understood as the short, medium and long-term elasticity between both variables.⁵⁴ Interpreted in this sense, if the ERPT coefficient is close to one over any given period, the pass-through of any nominal exchange rate depreciation to prices tends to be total during that time; and on the contrary, if the coefficient is close to zero, the pass-through of such a depreciation tends to be null over the same period.⁵⁵

International experience has shown that the ERPT is not an automatic or complete process,⁵⁶ and that the magnitude of the transfer between nominal exchange rates and inflation will

⁵⁴ Romero, J. (2012). Effects of exchange rate variations on the general price level: Mexico 1980 - 2011 [Working Paper]. El Colegio de México ("Romero, J. (2012)") page 2

⁵⁵ Romero, J. (2012), page 4

⁵⁶ Romero, J. (2012), page 2

depend on the conditions of every particular economy.⁵⁷ For example, in 1999 Brazil experienced a 60% devaluation, while the annual inflation rate was only 8.5% that year,⁵⁸ whereas in Mexico, the 1994 crisis produced a depreciation of the Mexican Peso that soared to 97% between October 1994 and March 1995,⁵⁹ with respect to the U.S. Dollar, brought about a 51.97% inflation rate by the end of 1995.⁶⁰ Nonetheless, in general terms, it can be said that the degree of the short-term effect and the size of this coefficient during short and medium-term periods, is usually related to the proportion of tradeable goods that are imported in an economy,⁶¹ and therefore, as this proportion increases, potential ERPT will increase.⁶²

The obvious conclusion should be clear by now, in that the established existence of the ERPT as a particular feature of the Mexican economy, sets a very useful illustration of the potential inadequacies of a U.S. industry specific index like the AII-LF, to reflect macroeconomic phenomena that have direct influence over the cost structures of a Mexican firm such as KCSM.

As long as any potential exchange rate depreciation has persistent, medium and long-term effects over inflation, KCSM will be subject to inflationary shocks that the AII-LF will have no opportunity to reflect. Inflationary shocks that could occur, not only through a depreciation's short-term effect on any tradable or imported inputs that are used for the provision of railway services, but also through the medium and long-term effects of ERPT overall economy-wide contracts,

⁵⁷ Id.

⁵⁸ Id.

⁵⁹ Source: Banco de México.

⁶⁰ <https://www.banxico.org.mx/publicaciones-y-prensa/informes-anuales/%7B2F0AA570-18A3-4217-89E1-9D64A8959F26%7D.pdf>

⁶¹ Romero, J. (2012), page 4.

⁶² Id.

including labor, that have the potential to influence all cost structures in local currency, over the entirety of the Mexican economy, regardless of industry.

Since the AII-LF is entirely devoid of any features that would allow it to reflect these kinds of macroeconomic conditions in Mexico, it may very well be the case that KCSM could be subject to inflationary pressures that only a country specific metric like the Core CPI would be able to replicate. Thus, in particular, it is our contention that Mexico's Core CPI appears to be superior in its attributes, and a better option than the AAR's AII-LF, when it comes to representing the supply and reflecting the cost structure of the services provided by a firm such as KCSM.**4. Conclusion**

It is our opinion that, in general terms, Mexico's Core Consumer Price Index ("*Índice de Inflación Subyacente*" or "Core CPI") tends to be the best measure to accurately reflect Mexico's long term historic inflation trends, and particularly, that Mexico's Core CPI is a superior measure, and a better option than the AAR's AII-LF, when it comes to representing the supply and reflecting the cost structure of the services provided by a firm such as KCSM.

VERIFICATION

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct. I further certify that I am qualified to provide this statement.

ALEF CONSULTORES



Ma. Fernanda de la Vega Duque

By _____

Date: May 30, 2023

Appendix A. Background & Qualifications

Alef Consulting

Partners

Dr. ASLAN COHEN holds a Bachelor of Economics from the Instituto Tecnológico Autónomo de México (ITAM), a Master's and a Ph.D in Economics from the University of California at Berkeley. He was General Director of Rules of Origin in the NAFTA negotiations, General Director of Mergers of the Federal Competition Commission and Partner at the Grupo de Economistas Asociados (GEA). He has vast experience in the analysis and resolution of antitrust cases and trade in integrated economic regions. Dr. Cohen was a member of the Mexican Academy of Law and Economics (AMDE), as well as a professor at Berkeley and Columbia universities. cohen@alefconsultores.net

Lic. EDUARDO SCOLA holds a degree in Economics with a specialization in finance from ITAM, having completed postgraduate studies in Economic Theory at the same institution. He has twenty years of experience in the design and execution of strategies for the analysis of antitrust cases, regulation and public policy; in sectors as varied as the Mexican financial sector; the Retirement Savings System (SAR); the rail freight service; passenger air transport services; operation of port terminals and the telecommunications sector, on issues ranging from the effects of the imposition of asymmetric limits in auctions, to the formation of rates and traffic patterns in interconnection services between networks, among others. He has served as an expert witness in the rendering of specialist opinions in the field of economics and statistics, before countless administrative and judiciary instances in Mexico and Latin America. scola@alefconsultores.net

Mtra. MARIA FERNANDA DE LA VEGA holds a degree in Economics with a specialization in finance from ITAM, has a Master's in Finance and a Diploma in Dynamic Econometric Models from the same institution. Provided technical advice to the Federal Ministry of Finance in the integration and analysis of statistical information on federalized spending. She has more than fifteen years of experience in microeconomic and financial analysis in the areas of economic regulation and antitrust, particularly in the telecommunications, transport, agricultural and consumer goods sectors. Her experience in the analysis and rendering of expert economic opinions includes the identification and quantification of damages; development of cost allocation models; financial valuations; imputation tests in service production chains; economic analysis in concentrations and mergers; estimation of economic spillover; negotiation with authorities and public policy design. She has served as an expert in economic matters before different instances in Mexico, and has participated in a variety of international arbitrations before the "*International Chamber of Commerce*" (ICC), "*American Arbitration Association*" (AAA), and the "*International Center for Dispute Resolution*" (ICDR), among others. vega@alefconsultores.net