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MEDIAN WAGES AND PRODUCTIVITY GROWTH IN CANADA AND THE UNITED STATES

Median Wages and Productivity Growth in Canada and the United States[1]

Introduction

In 2008, Sharpe, Arsenault and Harrison attempted to explain why the median earnings of full-time, full-year workers in Canada rose only $53 dollars, from $41,348 (2005 dollars) in 1980 to $41,401 in 2005, while over the same period, total economy labour productivity gains were 37.4 per cent. They identified four key factors: measurement issues, rising earnings inequality, falling terms of trade of labour (the relationship between the prices workers receive for output and the cost of living), and falling labour share. That study in some sense raised more questions than it answered about the relationship between real wages and labour productivity. This research note expands on Sharpe, Arsenault, and Harrison (2008) in order to shed additional light on the relationship.

The research note is divided into four sections. The first section decomposes the relationship between the growth rates of labour productivity and real wages in the United States to provide a comparison for findings in Canada. The second section explores in more detail the drivers of increasing income inequality in Canada and the United States, with particular attention to the market failure resulting from the principal-agent problem in individual compensation. The third section explores in more detail whether gross domestic product is the correct basis on which to compute the labour share or whether net domestic income might offer a more meaningful interpretation (Sharpe and Ross, 2009). The fourth and final section summarizes and concludes.

An Accounting Perspective on the Relationship between Labour Productivity and Real Wages in the United States

As was shown in Sharpe, Arsenault, and Harrison (2008), the relationship between real wages and labour productivity, when both can be compared meaningfully (exempt of measurement issues), is mediated by the labour share and labour's terms of trade:

$$\Delta Consumption\ wage = \Delta Labour\ productivity + \Delta Labour\ share + \Delta Labour's\ terms\ of\ trade$$

In the analysis median real wages rather than average real wages are used, which adds the inequality dimension (the difference between average and median real wages measures).[2] The final component of the decomposition, measurement issues, is accounted for mainly by the move from a wage measure to a total compensation measure which includes supplementary labour income. Summary Table 1 provides the key results for Canada and the United States.

In the U.S. non-farm business sector, real median hourly wages rose at an average annual rate of 0.33 per cent between 1980 and 2005, while labour productivity increased at an average annual rate of 1.73 per cent over the same period.[3] The gap was therefore 1.40 percentage points per year. Rising inequality, captured by the difference between median and average real hourly compensation, was the most important explanation for the gap, explaining 45 per cent. Labour's terms of trade, defined as the difference between the rate of growth of the price of output and the rate of growth of the price of consumption goods, contributed 23 per cent of the gap as the GDP deflator rose 2.99 per cent per year, while the CPI showed price inflation of 3.31 per cent. The increasing importance of supplementary labour income explained 12 per cent of the gap between the growth rates of median wages and labour productivity. Finally, the decline in the labour share of GDP from 65.0 per cent in 1980 to 61.3 per cent in 2005, accounted for 17 per cent of the gap between the growth rates of median real wages and labour productivity.

While this decomposition is not entirely comparable to that conducted for Canada, there are several points of interest to note. First, despite an average increase of 0.33 per cent in median real hourly wage in the United States, the gap between real wages and labour productivity annual growth was larger in the United States (1.40 percentage points) than in Canada (1.26 percentage points) between 1980 and 2005.

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[2] See Sharpe, Arsenault, and Harrison (2008) for full algebraic details.
[3] We are unable to reproduce for the United States the exact same decomposition that was presented for Canada in Sharpe, Arsenault and Harrison (2008). No series on median earnings per full-time full-year workers was available for the United States, so the decomposition in Summary Table 1 begins with median real hourly wages for all workers in the non-farm business sector. Since the rates of change in average hours worked per full-time full-year worker and in the number of full-time full-year workers relative to all workers are relatively unimportant for the purposes of this analysis, this omission is not a major concern. That said, readers should still exercise caution in making direct comparison between Canadian and US results because the US analysis is for the non-farm business sector, while the Canadian analysis is for the total economy. Moreover, the definition and coverage of labour compensation may be somewhat different.

Second, the increase in earnings inequality in the United States has been much more important than in Canada, in both absolute and relative terms. Whereas in Canada, the difference between the average annual growth rates of median and average real earnings was 0.35 percentage points, accounting for 27.6 per cent of the gap between the growth rate of real median wages and labour productivity, in the United States, the difference in the average annual growth rates of median real hourly compensation and average real hourly compensation was 0.63 percentage points, accounting for 45.1 per cent of the gap between the growth rates of real wages and labour productivity. This finding is consistent with evidence (for example, Saez and Veall, 2005) that the rise in income inequality has been more pronounced in the United States than in Canada.

Summary Table 1: Reconciling Growth in Median Real Earnings and Labour Productivity in Canada and the United States, 1980-2005

Earnings and Productivity Growth Gap (Compound Annual Growth Rates)	Canada (per cent)		United States (per cent)	
Median real hourly wage	0.01		0.33	
Labour productivity (Real output per hour)	1.27		1.73	
Total gap	1.26		1.40	
Contribution to median real earnings and productivity gap[1]	**Absolute** (points)	**Relative** (per cent)	**Absolute** (points)	**Relative** (per cent)
Inequality: from median to average measure	0.35	27.6	0.63	45.1
Labour's Terms of Trade: from CPI to GDP deflator[2]	0.42	33.3	0.31	22.5
Supplementary Labour Income: from wage to total compensation	0.35	27.3	0.16	11.7
Labour Share of Nominal GDP	0.25	19.8	0.23	16.7
Other measurement issues	-0.10	-7.9	-	-
Total – All Factors	**1.26**	**100.0**	**1.34**	**95.9**[3]

Source: CSLS calculations based on data from Statistics Canada the Economic Policy Institute, the Bureau of Economic Analysis, and the Bureau of Labor Statistics.

Notes:

1. Because of data limitations, the methodology for Canada and the United States differ slightly. In addition to differences in coverage (total economy in Canada and non-farm business sector in the United States), two other small differences are worth noting. First, the step from wage to total compensation is based on average measures in Canada and on median measures in the United States. Second, the step from median to average measures is based on earnings in Canada, and on total compensation in the United States.

2. For the United States, the CPI used is the CPI-U-RS, instead of the more commonly used CPI-U (CPI for all urban consumers). CPI-U-RS is a CPI developed by the BLS by applying methods that are currently used to produce the CPI-U to generate a CPI back to 1978. It should be noted that the widest differences between the two series (CPI-U and CPI-U-RS) occur prior to 1983, when the current treatment of homeowner cost measurement was introduced into the CPI-U.

3. For the United States, contributions do not add up to 100 per cent because of small differences between data sources used to estimate real hourly compensation and the labour share of nominal GDP. As well, estimates of median hourly real wage are for 1979-2005, while estimates of median hourly compensation are for the period 1980-2004. All other series were available in both 1980 and 2005. All figures are for the non-farm business sector, with the exception of the labour share which is for the total economy.

Third, labour's terms of trade deteriorated less in the United States than in Canada over the period from 1980 to 2005, at an average rate of 0.30 per cent per year (Summary Table 2) in comparison to 0.41 per cent per year in Canada. As was the case in Canada, most (85 per cent) of the deterioration in labour's terms of trade in the United States stemmed from the quality-adjusted prices of private investment rising much less quickly than the CPI. The slow growth in the quality-adjusted prices of investment goods resulted

from very slow growth in the prices of non-residential structures and real declines in the prices of equipment and software.

Summary Table 2: Decomposition of Labour's Terms of Trade, United States, 1980-2005

Labour's Terms of Trade	CPI	Domestic Economy Deflators				International Trade Deflators		
		GDP	Private Consumption	Government Consumption and Investment	Private Investment	Total	Exports	Imports
Compound Annual Growth Rate (per cent)								
-0.30	3.31	2.99	3.09	3.55	1.63	..	0.91	0.65
Absolute Contribution (percentage points)								
-0.30	..	..	-0.14	0.05	-0.26	0.09	-0.24	-0.33
Relative Contribution (per cent)								
100.0	..	..	45.5	-15.2	84.5	-29.7	75.6	105.3
Source: Bureau of Labor Statistics CPI-U-RS. Bureau of Economic Analysis GDP.								
Note: Some figures may not add due to rounding and to small exclusions from GDP								

Factors Explaining Rising Income Inequality in Canada and the United States

Sharpe, Arsenault, and Harrison (2008) noted that increased earnings inequality had contributed to the divergence between the growth rates of real wages and labour productivity in 1980-2005, but that report did not explore the drivers in earnings inequality in any detail. This section surveys some recent literature on income inequality[4] in Canada and the United States in order to provide some additional explanations for the significant rise in earnings inequality in both countries.

In Canada the reasons for the growing income inequality are poorly understood, but one key stylized fact has emerged: the income share of the upper tail of the income distribution has increased dramatically. Indeed, a number of researchers have noted that total income since the late 1970s is increasingly concentrated among the top one per cent of earners.[5] The share of income going to the top one per cent in Canada increased from 8.5 per cent in 1982 to 12.2 per cent in 2004 (Summary Table 3). Income gains among the top 0.1 per cent were even more significant; income share rose from 2.7 per cent in 1982 to 4.7 per cent in 2004. The other important point emerging from this research is that every other group in the income distribution, except for the bottom 25 per cent, has experienced a fall in its share of income.

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[4] In practice, total income inequality data are more readily available than data on earnings inequality. Income differs from earnings because it includes transfer payments and non-labour income such as interest, dividends, and capital gains accruing to households (collectively capital income). Nonetheless, earnings are the largest component of total income and have driven the trend in recent years.

[5] Saez and Veall (2005) is a particularly well-known paper in this literature, and its findings have been confirmed in many subsequent studies (Murphy, Michaud and Wolfson (2008) and Heisz (2007) for example).

Data limitations, such as the small sample size of the Survey of Labour and Income Dynamics (SLID), hinder our ability to assess the reasons for the increase in the income share of the top one per cent. Similarly, Osberg (2008) notes that most of the information we gather on education and unemployment, which is most relevant in explaining trends in inequality, aims to cover the middle of the income distribution and does not oversample the tails, making it difficult to obtain reliable estimates focusing on top earners. In this vacuum of reliable data, researchers have put forward a number of theories to explain the rise of the top one per cent. In Canada, far less analysis has been completed than in the United States. As a result, we must draw heavily on US literature in this discussion.

Summary Table 3: Shares of Total Individual Income in Canada, by Income Vingtile, Per Cent, 1982-2004

	1982	1992	2004	Change 1982 to 2004
Bottom 5%	-1.0	-0.1	0.0	1.0
5% to 10%	0.1	0.6	0.4	0.3
10% to 15%	0.6	1.0	0.9	0.3
15% to 20%	1.1	1.4	1.2	0.1
20% to 25%	1.5	1.7	1.5	0.0
25% to 30%	1.9	2.0	1.8	-0.1
30% to 35%	2.3	2.3	2.1	-0.2
35% to 40%	2.8	2.7	2.5	-0.3
40% to 45%	3.2	3.2	2.8	-0.4
45% to 50%	3.7	3.5	3.2	-0.5
50% to 55%	4.2	3.9	3.7	-0.5
55% to 60%	4.7	4.5	4.2	-0.5
60% to 65%	5.2	5.0	4.7	-0.5
65% to 70%	5.9	5.6	5.3	-0.6
70% to 75%	6.6	6.3	5.9	-0.7
75% to 80%	7.3	7.1	6.7	-0.6
80% to 85%	8.2	8.0	7.7	-0.5
85% to 90%	9.4	9.3	9.0	-0.4
90% to 95%	11.2	11.2	11.0	-0.2
95% to 100%	21.0	20.9	25.3	4.3
95% to 99%	12.5	12.3	13.1	0.6
99% to 99.9%	5.8	6.0	7.5	1.7
99.9% to 99.99%	1.8	1.8	3.0	1.2
Top 1% (99% to 100%)	8.5	8.6	12.2	3.7
Top 0.1% (99.9% to 100%)	2.7	2.6	4.7	2.0
Top 0.01% (99.99% to 100%)	0.9	0.8	1.7	0.8

Source: Murphy et al (2008)

Using tax data on adjusted gross income from the US Internal Revenue Service, Kaplan and Rauh (2007) examined who makes up the top income earners in the United States.[6] They looked at four groups: top executives in non-financial firms; financial

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[6] The analysis by Kaplan and Rauh goes beyond labour income.

service sector employees from investment banks, hedge funds, private equity funds, and mutual funds; lawyers; and professional athletes and celebrities. They conclude that their evidence supports theories to explain the rising share of top income earners which rely on skill-biased technological change, greater scale, and superstars.

Theories of skill-biased technological change predict that changing technology, particularly information and communications technology (ICT), have increased the earnings of some, like hedge fund managers who can manage large amount of assets efficiently using new technologies. On the other hand, the ability to more efficiently manage global supply chains, largely thanks to ICT, has significantly increased the ability of firms to locate production in lower cost regions. This latter trend has put downward pressure on the wages of competing workers in firms still located in relatively high-cost countries like Canada.

Some argue that rising pay for the top one per cent reflects the growing demand for very highly skilled labour coupled with higher returns resulting from instantaneous communications. This "superstar" theory, often attributed to Rosen (1981), can reflect the efficient functioning of the market economy. An extreme example is J.K. Rowling, the author of the Harry Potter series. She was the first person to become a billionaire by writing books, a reality made possible by the new market forces which among other things facilitate the distribution of products across markets.

The idea that CEOs and other persons in positions of power within corporations may abuse the trust of shareholders is an idea as old as the corporation itself. Posner (2009) notes that CEO compensation has increased significantly in recent years, from an average of $2.33 million in 1992 to an average of $5.47 million in 2005. Over the same period, the average earnings per production worker in the U.S. private sector increased from $19,149 in 1992 to $28,305 in 2005 (Bureau of Labor Statistics, weekly earnings from the Current Employment Survey). The CEO compensation to average earnings ratio thus increased from about 120 in 1992 to over 190 in 2005. Similarly, in Canada, Mackenzie (2008) finds that between 1998 and 2006, the average earnings of the best-paid 100 CEOs increased by 146%. While the average of weekly wages and salaries in Canada increased by only 18% over the same period.

There is an extensive literature on the market failure that can result from the principal-agent problem, much of it referenced by Posner (2009). The argument is that corporate managers (agents) will not always act in the best interests of the corporation's shareholders (principals), because they have competing objectives including personal enrichment and empire-building. The problem is made worse by the dispersion of ownership in many public companies. Owners and the directors they elect to govern corporations have little incentive to expend resources monitoring top managers. Much literature also exists on the often elaborate mechanisms developed to overcome the principal-agent problem by aligning management incentives with shareholder interests—stock options being among the most well-known. The extent to which such mechanisms have been successful remains hotly debated, and several high profile failures illustrate the risks of poorly designed incentive compensation.

What makes the corporate principal-agent problem an attractive explanation of increasing income inequality is the increasing scale of firms in recent years. Posner (2009) argues that larger firms are more easily able to hide the compensation of top managers. For example, if a firm doubles in revenue, then an increase in managerial compensation of 50 per cent is less likely to be noticed by shareholders, because managerial compensation has declined as a share of total revenues. This problem is exacerbated to the extent that stock options have not been treated as expenses. Massive increases in managerial compensation would be far more difficult to justify in the absence of fast-growing revenues. Gabaix and Landier (2008) estimate that the 100 largest firms in the United States, measured in terms of earnings before interest and taxes, increased 2.7 times in real terms (using the GDP deflator) between 1980 and 2003. In contrast, US real GDP increased by only 100 per cent. They argue the growth of CEO compensation is closely related to this increase in firm size.

All three factors outlined above may interact in many instances to increase the share of income going to the top of the income distribution. For instance, hedge fund managers may be benefiting from higher earnings resulting from changes in technology that allow them to effectively manage more money, which allows them to obtain higher pay, whether the result of a market failure or not, and which allows them to reach more customers.

Much less is known about the top of the income distribution in Canada. We can certainly argue that trends in the United States are having an impact on Canada. Saez and Veall (2005) suggest that the threat of migration to the United States, where the surge in top income share started earlier (1970), might have spurred the surge in Canada. They support their case with evidence from Quebec where residents have a lower propensity to migrate because of language and cultural differences and where the top income share increase has been much more modest. While all of the factors identified as explanations for the increase in the share of income going to the top of the distribution in the United States are also likely at play in Canada, surging top incomes in Canada may have much to do with forces at play in the United States.

Conceptual and Measurement Issues Associated with the Labour Share

Conceptual and measurement issues make the interpretation of a falling labour share difficult.[7] Most notably, it is not clear that taking labour compensation as a share of GDP is appropriate, since GDP includes a number of categories that do not represent income from production, including capital cost allowance (CCA), taxes less subsidies, inventory valuation adjustment, and the statistical discrepancy. These elements are the difference between GDP at market prices and a narrower concept of income which we

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[7] We are grateful to Pierre Fortin for his lucid exposition of these issues and to Paul Davenport for his useful comments on the matter.

call net domestic product at basic prices (NDP).[8] Quantitatively, CCA and taxes less subsidies are the most important such elements of GDP.

Capital cost allowance, which represents the depreciation of fixed assets (not inventory), is a significant component of GDP: 11.8 per cent of GDP in 1980 and 12.8 per cent of GDP in 2005. Removing CCA from GDP provides a measure of the production that can be used for consumption and new investment once the existing stock of capital has been maintained. Part of the price consumers pay for goods and services reflects CCA, and so when GDP is calculated by summing up the value of all transactions, CCA is included. Since resources that are being used to recapitalize existing assets are not available to either labour or capital as income, a more meaningful definition of labour share can be calculated by removing CCA from GDP to obtain NDP at market prices.

Summary Table 4: Labour Share in Canada: Conceptual and Measurement Issues

	Level (Billions of Current Dollars)		As a Share of GDP (per cent)		As a Share of NDP (per cent)	
	1980	2005	1980	2005	1980	2005
GDP at Market Prices	314,390	1,375,080	100.0	100.0	122.2	131.7
Net Domestic Product at basic prices (NDP)*	257,366	1,044,003	81.9	75.9	100.0	100.0
Labour Compensation*	180,191	742,466	57.3	54.0	70.0	71.1
Capital Income*	77,175	301,537	24.5	21.9	30.0	28.9
Capital Consumption Allowance	37,212	176,338	11.8	12.8	14.5	16.9
Taxes less subsidies on products	27,892	156,181	8.9	11.4	10.8	15.0
Inventory Valuation Adjustment	-7,336	-933	-2.3	-0.1	-2.9	-0.1
Statistical Discrepancy	-744	-509	-0.2	0.0	-0.3	0.0

Source: Authors' calculations based on Statistics Canada data and methodology from Fisher and Hostland (2002). This methodology estimates the labour share of self-employment income to be 57 per cent. This approach is different from the way in which the labour share is calculated in Sharpe, Arsenault and Harrison (2009), which uses the imputation made by Statistics Canada in the productivity accounts. However, in this note, it is necessary to use the national accounts data on labour compensation in order to estimate the labour share of NDP consistently, and the authors must thus make its own imputation for self-employment labour income.

One explanation for the increasing importance of CCA is that newer technologies (particularly computers and software) depreciate at a faster rate than older technologies, increasing the share of CCA in GDP and pushing the labour share downwards. Increases in the share of CCA decrease the share of income going to labour, because CCA is a component of the non-labour share of output. The brunt of the shift in the relationship between labour productivity and real wages occurred between 1992 and 1996. This coincided with a rise in the share of income going to CCA. Yet, the increase in the share of CCA can hardly explain more than one-third of the fall in the labour share between 1980 and 2005.

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[8] See Sharpe and Ross (2009) for a detailed explanation of the differences between GDP and NDP. Formally, the only difference between GDP and NDP in current dollars is the inclusion/exclusion of capital consumption allowances (CCA) and the statistical discrepancy. Removing taxes less subsidies on products transforms the measure from market prices to basic prices. The removal of the inventory valuation adjustment is justified by the fact that, like CCA, the income produced is not a result of production.

The other adjustments to GDP needed to reach our narrower concept of NDP are to remove taxes less subsidies both on products and factors of production,[9] to remove inventory valuation adjustment[10] and to remove the statistical discrepancy. It should be noted that while taxes are not income for labour or capital, subsidies and profits from inventory are. Taxes less subsidies contributed significantly to the difference in trend between GDP and NDP – particularly due to the introduction of the GST in 1991 – with the 'taxes less subsidies' to NDP ratio increasing 4.2 percentage points between 1980 and 2005 (more than the equivalent measure for CCA, at 2.4 percentage points). Inventory valuation, a very volatile component of GDP, also increased its ratio to NDP by 2.8 percentage points (Summary Table 4).

Summary Table 5: Factors Explaining the Difference Between Median Real Earnings and Labour Productivity Growth in Canada, 1980-2005
(Average annual rate of change)

	Absolute (points)	Relative (per cent)
Median Real Earnings and Productivity Gap, of which:	1.26	100.0
Measurement Issues	0.25	19.8
Inequality	0.35	27.6
Labour's Terms of Trade	0.42	33.3
Labour Share of GDP, of which:	0.25	19.8
NDI as a share of GDP	0.30	24.1
Labour Share of NDI	-0.06	-4.9
Source: Adapted from Sharpe, Arsenault and Harrison (2009)		
Note: The small difference between the contribution of the labour share of GDP and the addition of its sub-components is explained by measurement discrepancies for self-employment income explained in Summary Table 4.		

It may be more appropriate to view the labour share as labour compensation divided by NDP, which is GDP less CCA, taxes less subsidies, inventory valuation adjustment, and statistical discrepancy. By this measure, the labour share rose between 1980 and 2005 from 70.0 per cent of NDP to 71.1 per cent, while the capital share fell from 30.0 per cent to 28.9 per cent of NDP. Adding this decomposition to the results of Sharpe, Arsenault and Harrison (2009), we find that the labour share has played a rather insignificant role in the divergence between productivity and real wages, with the fall of the NDI to GDP ratio explaining about a quarter of the gap (Summary Table 5). Due to difficulties in measuring and interpreting changes in the labour share, we feel it is more appropriate to focus on inequality and labour's terms of trade as key drivers of the relationship between real wages and labour productivity.

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[9] "Taxes less subsidies on factors of production refer to taxes received and subsidies paid by government. These taxes and subsidies are payable or paid regardless of the quantity or value of the goods and services produced or sold. Capital taxes, licences and permits, property taxes and payroll taxes are examples of taxes included in this aggregate. Taxes less subsidies on products also refer to taxes received and subsidies paid by government, but they are payable or paid based on the quantity or value of goods and services produced or sold. This aggregate includes sales taxes, fuel taxes, import duties and taxes, and excise taxes on tobacco and alcoholic products." (Statistics Canada, 2008)

[10] "The inventory valuation adjustment represents the net holding gain or loss incurred by businesses as a result of price changes. This is an adjustment to profits, since gains or losses on inventories are included in the corporation profits before taxes." (Statistics Canada, 2008)

Conclusion

In 2008, Sharpe, Arsenault and Harrison found that the median real earnings of Canadians barely increased between 1980 and 2005 and that over the same period, labour productivity had risen by 37.4 per cent. They explained this divergence by four factors: measurement issues, an increase in earnings inequality, a decline in labour's terms of trade, and a decline in labour's share of national income. Building on these findings, this note made three new contributions:

- It undertook the accounting decomposition of the relationship between the growth rates of real wages and labour productivity for the United States. Despite an average increase of 0.33 per cent in median real hourly wage in the United States, the gap between real wages and labour productivity annual growth was larger in the United States (1.40 percentage points) than in Canada (1.26 percentage points) between 1980 and 2005. The rise in inequality was a much more important factor for the divergence between the growth rates of labour productivity and real wages in the United States, where it accounted for almost half of the difference, than in Canada, where it accounted for around one-quarter of the gap. Changes in supplementary labour income were more important in Canada (28 per cent) than in the United States (12 per cent), and so were falling labour's terms of trade (33 per cent versus 23 per cent). The fall in labour share was similarly important in both countries (20 per cent in Canada versus 17 per cent in the United States).

- This paper also explored in more detail the causes of rising inequality in Canada and the United States. The rise in inequality is attributable to the increasing income share of the top one per cent of the income distribution, and stagnant or falling income shares elsewhere. Market failures related to principal-agent problems around the compensation of corporate managers appear to be a key driver of rising inequality in the United States and are likely important in Canada as well, but to a lesser extent.

- Finally, this paper explored in more detail whether GDP is the correct basis on which to compute the labour share. It concluded that the use of net domestic income (NDP) to compute labour share may provide a more meaningful interpretation. However, unlike the labour share of GDP, the share of NDP going to labour actually rose in Canada over the period 1980-2005. Ambiguity in the interpretation of labour share suggests the attention should be more appropriately focused on rising inequality as a key driver of the divergence between the growth rates of real wages and labour productivity in Canada and the United States.

A number of factors can explain why Canada and the United States have experienced stagnant median real wages, but the transformation of the North American economy, which is being driven by globalization and technological change, is at the heart of any explanation. The precise nature and relative importance of the channels through which these forces are impacting the relationship between real wages remain contentious, but, as Osberg (2008) points out in reference to inequality, there will likely be implications for political economy to the extent that these trends persist.

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