

# **Title: The OLCC Wants to Set Price Floors for the State's Booze. Bars and a Big Distiller Cry Foul.**

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# The OLCC Wants to Set Price Floors for the State's Booze. Bars and a Big Distiller Cry Foul.

 [wweek.com/news/2021/03/10/the-olcc-wants-to-set-price-floors-for-the-states-booze-bars-and-a-big-distiller-cry-foul](https://www.wweek.com/news/2021/03/10/the-olcc-wants-to-set-price-floors-for-the-states-booze-bars-and-a-big-distiller-cry-foul)

By Nigel Jaquiss |  
Published March 10  
Updated March 11

While the Legislature considers a bold, highly contentious tax hike on beer and wine, the Oregon Liquor Control Commission is quietly mulling whether to set price floors on liquor that would make the state's cheapest booze more expensive than it is in neighboring states.

The agency holds a near-monopoly on hard liquor sales in Oregon (except for distillers' on-premises sales). In late January, the OLCC announced it would consider establishing minimum prices for all spirits in all container sizes.

It could do so April 8 with a simple majority vote of the seven-member commission, whose members are appointed by Gov. Kate Brown.



Two years ago, Brown declared addiction a public health crisis in Oregon—but she's done little to address it. That inaction irked her own Alcohol and Drug Policy Commission and advocates such as the group Oregon Recovers.

Lately, others have been considering tax hikes, both to discourage substance abuse and to fund treatment. Brown and lawmakers have taken some heat in the past year, as sales of liquor, beer, wine and cannabis, all of which the state already taxes handsomely, have soared.

On Jan. 29, with no fanfare, the OLCC proposed establishing minimum prices. The proposal would set minimum prices for about 16% of the booze OLCC sells, raising about \$7.5 million over the next two years for agency operations, not a sizable figure in governmental revenue terms. But the OLCC's brief explanation suggested that wasn't the point: "The setting of minimum prices can contribute to decreased social harms and adverse health impacts," the agency said.

In a March 1 letter to the OLCC, Sazerac, the nation's largest distiller and the largest supplier to the OLCC, complained that price floors are wrongheaded.

"Sazerac is opposed to the minimum price proposal for distilled spirits because it discriminates against low-income residents and cost-conscious consumers, hurts bars and restaurants struggling to make ends meet, will drive business out of Oregon, and is misguided in its approach towards reducing social harms," wrote Sazerac Company CEO Mark Brown. (Sazerac owns many high-end brands, such as super-premium Pappy Van Winkle bourbon, but also sells some of the state's cheapest vodkas, including Taaka and Mr. Boston.)

The company attempted to bolster its argument with the March 8 release of poll results, which unsurprisingly found that Oregonians prefer lower-priced booze to the alternative. Sazerac also lined up bar and restaurant owners who depend on cheap booze for well drinks.

The state's largest liquor producer, Hood River Distillers, took a different tack: It embraced the idea.

"Minimum floor pricing will deter distilled spirit manufacturers from racing to the bottom," wrote HRD president David Ballew in a March 8 letter to the OLCC. "As shelf prices get lower, large national manufacturers often implement a strategy to lose money on these items solely for the purpose of squeezing out competition."

Both companies are presenting arguments that serve their interests. But HRD included in its letter an argument that may help Brown pacify critics who say she hasn't acted to reduce consumption. Ballew noted that when Scotland implemented price floors in 2018, consumption dropped between 4% and 5%.

Sazerac's counterargument: Oregonians are going to be paying a lot more than customers in surrounding states.

Here's what the OLCC says its proposal would do to the minimum price of a 750 ml bottle of 80 proof vodka and how that compares with neighboring states. (Sazerac disagrees, saying Oregon is less competitive.)



The Oregon Liquor Control Commission (OLCC) proposed imposing a price floor that raises Oregon liquor prices to higher than neighbouring states. A price floor refers to a legally set minimum price such that the legally charged price by the sellers of a good, such as liquor bottles, must not be below it. The OLCC looks to impose this price floor on alcohol bottles to reduce alcohol consumption and its adverse impacts on society. The **efficiency** of this can be determined by how it corrects the market failure to ensure the best possible use of scarce resources to benefit society and minimize resource waste.

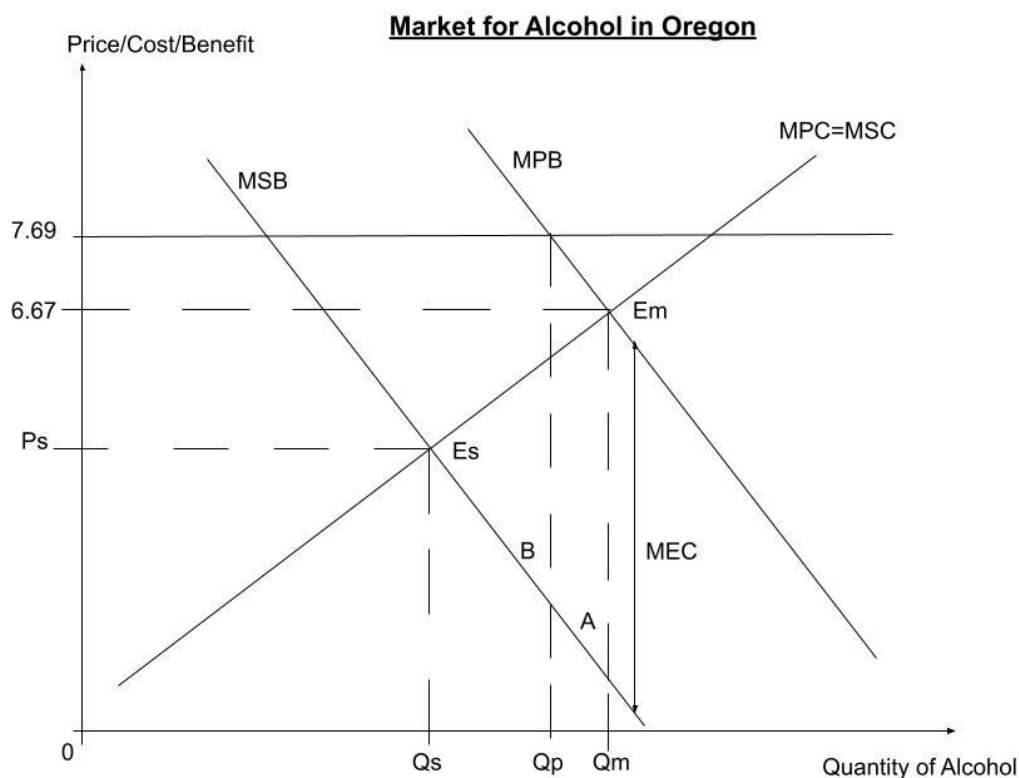


Figure 1

Figure 1 shows the market for alcohol in Oregon. Assuming, that there are no externalities in production, the MPC is equal to the MSC. To maximise self-interest, consumers consume where  $MPB = MPC$  at  $E_m$ , hence the quantity demanded of alcohol in the market for Oregon is  $Q_m$  at the initial price of \$6.67. The  $MSB = MPC$  at  $E_s$ , so the socially optimal quantity of alcohol is  $Q_s$ . Since  $Q_m$  is greater than  $Q_s$ , the quantity demanded of alcohol in the market is greater than the socially optimal quantity so there is an overconsumption of alcohol. The MEC is shown, with the third party being the taxpayers whose money is used towards healthcare for the alcohol-related problems. This results in a welfare

loss with the area EsEmA in the diagram. Therefore, there is an overallocation of resources to produce alcohol at free market equilibrium, Em leading to **allocative inefficiency** and resulting in market failure due to overconsumption of alcohol.

To correct the market failure and reduce the quantity demanded of alcohol to be closer to the socially optimal level of consumption, the OLCC proposed to introduce a price floor that raises the prices of alcohol and discourages consumers from buying it. With this price floor, the price of a 750ml bottle of vodka will increase from \$6.67 to \$7.69.

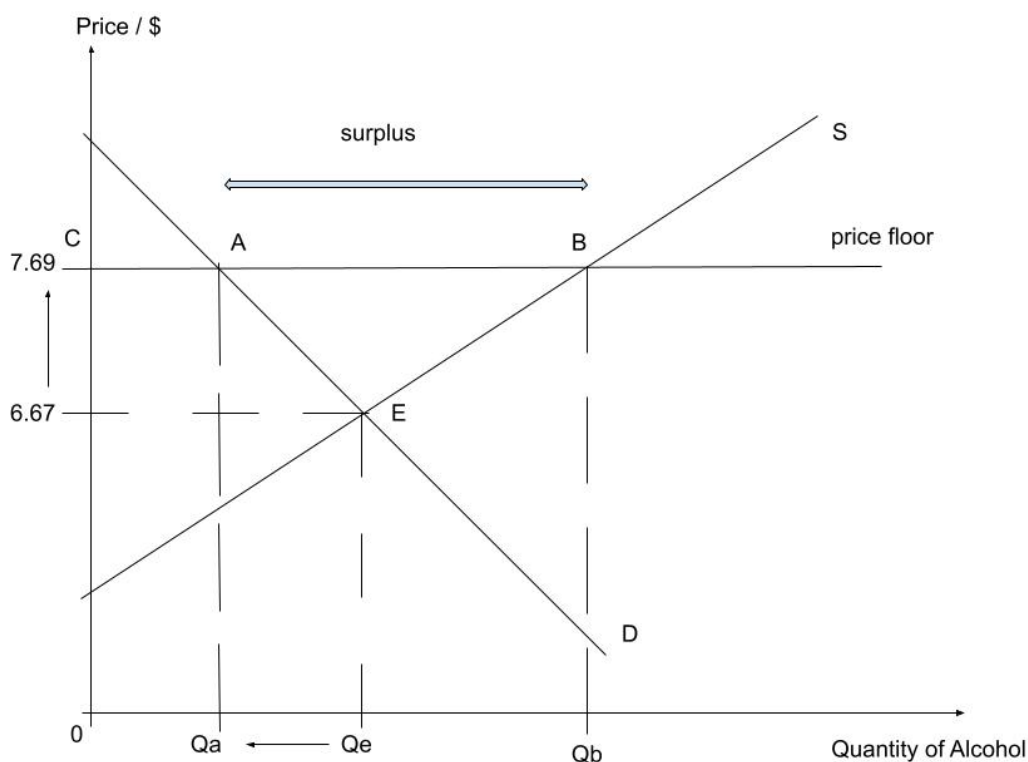


Figure 2

In Figure 2, the demand curve initially intersected the supply curve at E so the initial quantity demanded of alcohol is Qe when the price was \$6.67. The price floor was set above the initial equilibrium price of \$6.67, at \$7.69. This price increase causes the quantity demanded of alcohol to decrease from Qe to Qa as the demand curve intersects the price floor at A. This shows that the measure

will be successful to some extent in reducing consumption to be closer to the socially optimal level as consumers are less willing and able to purchase the alcohol, suggesting the policy is **efficient**. However, the supply curve intersects the price floor at B so the quantity supplied increases to  $Q_b$ , which is greater than  $Q_a$ , leading to a surplus of area  $ABQ_aQ_b$  as producers may overproduce alcohol. As a result, the total revenue of the producers reduces from  $OP_eEQ_e$  to  $OCAQ_a$ , reducing their profits and hence showing a disadvantage of the price floor for the producers, reducing **efficiency**.

The price floor is expected to have some positive impacts. The decrease in consumption of alcohol to be closer to the socially optimal level will reduce the negative externalities of alcohol-related detriments to society and health problems that are linked to overconsumption of alcohol. The policy is efficient in reducing the welfare loss and ensuring that the resources used by the government and the taxpayers' money that were previously spent on solving these problems can be directed elsewhere, allowing taxpayers to reap benefits, thus reducing the **allocative inefficiency**.

However, this is also expected to have negative impacts which reduce **efficiency**. The price floor will make consumers pay more for alcohol in Oregon as compared to neighbouring states. This could lead to cross border smuggling and give rise to a black market. Moreover, this will also reduce the total revenue and profits of possibly already-struggling bars and restaurants. This may result in these shutting down, thus driving business away from Oregon and having an adverse impact on the economy in the long-term. Furthermore, this measure was met with resistance by the public and bar owners that depend on cheap alcohol which was shown through a poll conducted by the company Sazerac.

Despite, these drawbacks this measure can be **efficient** in correcting market failure to some extent as the consumption level does not drop to the socially optimal level, but still decreases. If implemented alongside other measures to curb alcohol consumption such as the taxes by the Legislation, it may be **efficient** to a larger extent. However, the state may have to face an opportunity cost in the form of economic losses due to the decreased profits of businesses and the possibility of driving them away entirely, reducing **efficiency** which must be compared to the greater benefit of the welfare to society.

<b>Subject</b>	Economics
<b>Commentary Number</b>	2

<b>Article Title</b>	BOK chief hints at more hikes after raising policy rate to pre-pandemic level
<b>Source URL</b>	<a href="https://en.yna.co.kr/view/AEN20220114002854320">https://en.yna.co.kr/view/AEN20220114002854320</a>

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## 4th LD) BOK chief hints at more hikes after raising policy rate to pre-pandemic level

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 [en.yna.co.kr/view/AEN20220114002854320](http://en.yna.co.kr/view/AEN20220114002854320)

January 14, 2022

SEOUL, Jan. 14 (Yonhap) -- South Korea's central bank chief Friday hinted at the possibility of more rate hikes in the months to come even after raising borrowing costs to a pre-pandemic level to ease inflationary pressure and rein in rising household debt.

Earlier in the day, the monetary policy board of the Bank of Korea (BOK) convened its first rate-setting meeting of this year and voted to raise the benchmark seven-day repo rate by a quarter percentage point to 1.25 percent.

The decision came after the central bank raised the rate by 0.25 percentage point in the immediate previous board meeting in November. This also marked the third rate increase since the BOK delivered its first pandemic-era rise in August.

Friday's hike brought the rate back to a pre-pandemic level maintained before March 2020 when the central bank held an emergency meeting and slashed it by a half percentage point to 0.75 percent to cushion the fallout from the pandemic. Two months later, it trimmed the rate further to an all-time low of 0.5 percent.

The zero range interest rate had been in place for about two years to shore up the economy buffeted by less spending and sluggish business activity amid uncertainty from the pandemic.

In an online press briefing, BOK Gov. Lee Ju-yeol said that even after the recent three rate hikes, the central bank's monetary policy stance remains still "accommodative."

"We look into various factors when determining whether the stance is accommodative or not," Lee told reporters. "The rate was hiked today but it appears to be still accommodative in light of growth, inflation situations and outlooks."

Explaining the reason for a rate hike on Friday, the BOK issued a statement in which it said that the Korean economy has continued to recover despite COVID-19 concerns, buoyed by strong exports, while there is the need to keep a lid on inflation as prices of oil, farming, livestock and other materials have been on the rise.

The central bank also left open the possibility for further rate increases, saying that it will "adjust the degree of accommodation" by thoroughly assessing economic growth, inflation and other relevant factors.

"The Board will continue to conduct monetary policy in order to sustain the recovery of economic growth and stabilize consumer price inflation at the target level over a medium-term horizon, while paying attention to financial stability," the BOK said in the statement. "The Board will judge when to further adjust the degree of accommodation while thoroughly assessing developments related to COVID-19, changes in the pace of growth and inflation, the risk of a buildup of financial imbalances, the effects of the Base Rate raises, and monetary policy changes in major countries," it added.

Friday's rate decision was not unanimous, with one board member voicing dissenting views and calling for a rate freeze, Gov. Lee said.

The BOK has recently ramped up efforts to bring the loose monetary policy back to normal as the economy is revving up amid strong exports and concerns are growing over inflation driven up by global supply disruptions and a rebound in consumption.

South Korea's consumer inflation jumped 3.7 percent in December from a year earlier, marking three straight months of inflation rising more than 3 percent.

For 2021, consumer inflation rose 2.5 percent from a year earlier, the fastest growth in 10 years. It is higher than the BOK's medium range target of keeping the price increase at 2 percent.

Inflation has emerged as a global issue, prompting central bankers in the U.S. and other major economies to tighten monetary measures.

Recently unveiled minutes of the U.S. Federal Reserve's December meeting indicated the Fed will likely speed up the tightening of its loose monetary policy "sooner or at a faster pace."

The Fed had been widely expected to wind down its pandemic-era asset buying stimulus in March and start to raise its near-zero interest rates in June, but the latest minutes raised the possibility that rate increases could come as early as March.

Lee said that South Korea's economy is strong enough to cushion any impact from the Fed's faster-than-anticipated tightening but noted that the BOK will stay vigilant over the monetary policy stance in the U.S.

The latest BOK rate hike and further increases down the road have spawned anxiety over growing financial burden on many households and small merchants, which have taken on more debt to buy homes or secure funds to weather an economic downturn.

Market watchers expect that the BOK could raise the policy rate to 1.5 percent or 1.75 percent by the end of this year. The BOK is set to hold its next rate-setting meeting on Feb. 24.

A BOK report showed that a 0.25 percentage rate hike could translate into about 3.2 trillion won (US\$2.7 billion) more in annual interest payment.

Friday's rate increase came amid lingering worries over an upsurge of coronavirus infections and the spread of the potentially more transmissible omicron variant of COVID-19.

Asia's fourth-largest economy is on a recovery track on the back of robust exports but a resurgence of virus cases and the fast spread of the omicron variant could put a damper on the recovery of private spending.

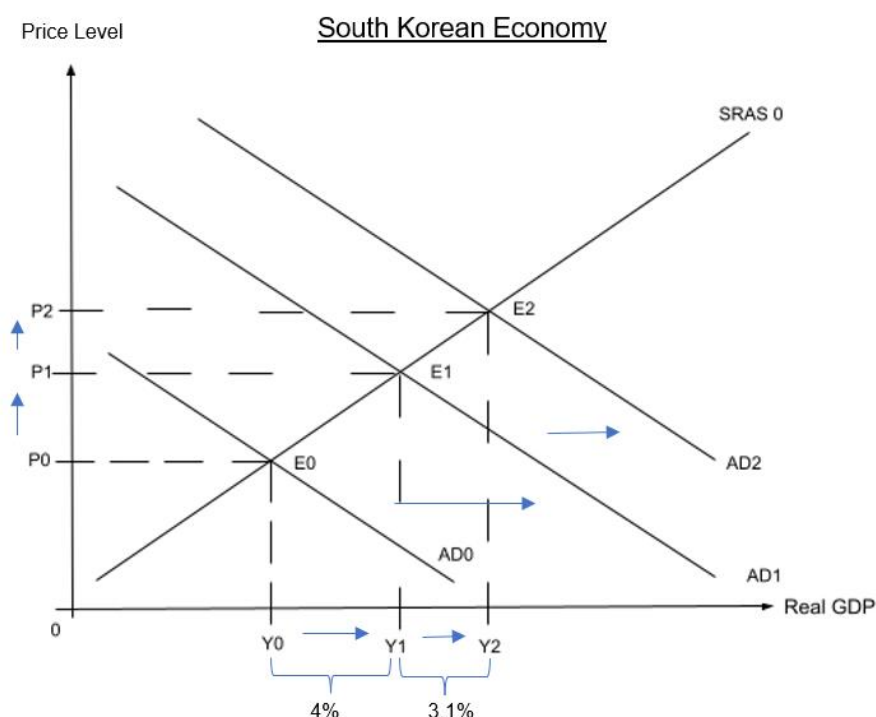
The government has reimposed toughened antiviral restrictions since mid-December after daily infections soared to nearly 8,000 under the eased "living with COVID-19" scheme.

The current antiviral curbs, set to be in effect until Sunday, include a four-person cap on private gatherings across the nation and a 9 p.m. business hour curfew on cafes and restaurants. The government plans to raise the private gathering ceiling to six people but keep in place the business hour curfew for three more weeks.

The BOK currently expects the South Korean economy to expand 3 percent this year after an estimated 4 percent growth last year. The government predicts that the economy will grow 3.1 percent this year.

kokobj@yna.co.kr  
(END)

The Bank of Korea (BOK) recently increased interest rates in order to reduce inflationary pressure on the South Korean economy. Inflation refers to a sustained increase in the general price level in the economy over a time period. The increase in inputs prices and consumer expenditure resulted in inflation in South Korea, causing BOK to **intervene** with a monetary policy. A monetary policy refers to attempts by the central bank to use change of interest rates or money supply to change AD in the economy. The key concept of **intervention** is demonstrated as BOK is involved in the working of the market, **intervening** with the contractionary monetary policy of increasing interest rates to contain rising inflation in the free market.



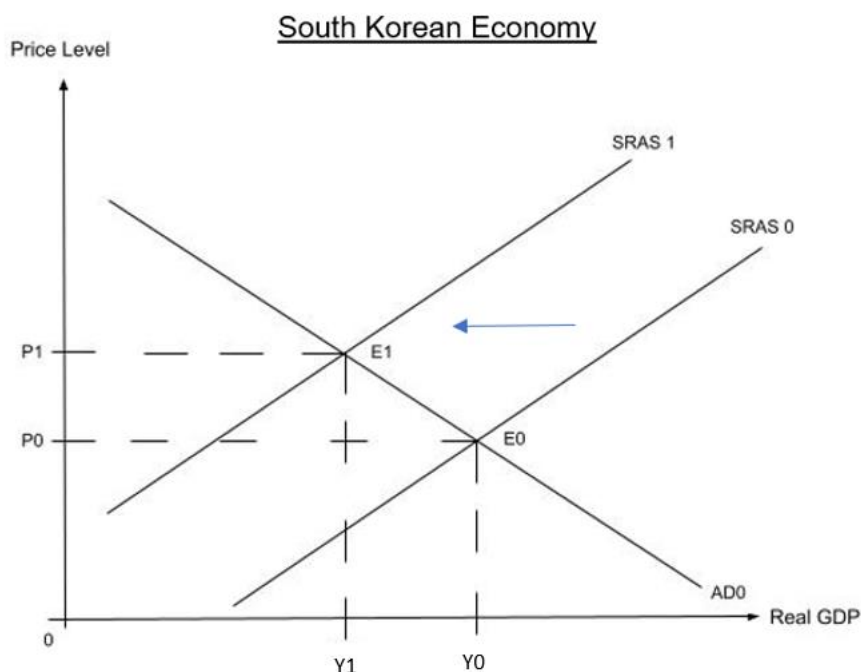
The diagram above shows the economy in South Korea. In the free market, AD increases from AD0 to AD1 due to increased consumer expenditure, causing the price level to increase from P0 to P1 when the AD meets SRAS0 at E0 and E1 respectively, hence causing demand-pull inflation in the economy. In order to contain

inflation, BOK increased interest rates from 1.00% to 1.25%. This caused an increase in cost of borrowing and returns to savings, lowering investments and consumer expenditure. South Korea's strong exports caused an increase in  $X$  and since  $AD = C + I + G + X - M$ , the AD increases from AD1 to AD2, ceteris paribus, with the price level increasing from  $P_1$  at  $E_1$  to  $P_2$  at  $E_2$ . However, the decrease in  $C$  and  $I$  due to the monetary policy dampens this increase in AD to lesser than the increase in the free market, from 4% to 3.1%, illustrating how the policy reduces inflation while still allowing for economic growth to occur.

An advantage of **intervention** with monetary policy is the greater precision it provides. BOK was able to fine-tune the policy to accommodate the economic situations, initially lowering interest rates from 1.25% to 0.75% and then 0.50% to support the economy in light of reduced economic activity as a result of the pandemic. The BOK subsequently raised the interest rates three times to ease rising inflation. The flexibility in raising and reducing interest rates allows the central bank to make incremental changes in the policy in light of economic developments to fine-tune the AD to desirable levels. This also minimizes over-shooting so that the economy is able to grow at low inflation levels with **intervention** as the AD still increases at a smaller rate from AD1 to AD2 as shown in the diagram, allowing for the predicted 3.1% economic growth. Furthermore, monetary policy allows for lesser time lag for the effects of the policy to take place. The decision-making process and implementation lag is lesser compared to other **interventionist** policies such as a fiscal policy. The monetary board of BOK was able to vote on the rate hike within a meeting and hence raised the interest rates immediately, allowing for the impacts to begin within a short time period.

However, BOK's **intervention** may have some adverse impacts as well. The policy is not favoured by the general public with many households and small businesses facing increased financial burdens, reducing their economic well-being compared to a free market due to their financial security being threatened. This is due to the increased cost of borrowing, translating to 3.2 trillion Won of payments, which raises their debt from loans taken during an economic downturn from the pandemic, making it more difficult for these consumers to repay them.

Furthermore, this form of **intervention** does not address the root cause of inflation emerging in South Korea which is global supply disruptions amidst increased consumption which raises prices due to a decrease in the SRAS, with the curve shifting left from SRAS0 to SRAS1 as illustrated in the diagram below.



Since the monetary policy only changes AD directly and does not affect the SRAS, the cost-push inflation shown in the diagram above cannot be directly contained with the **intervention** of the central bank.

Overall, the **intervention** by BOK is effective in reducing the demand-pull inflation to some extent while still allowing economic growth to occur. However, this form of **intervention** does not address the root cause of cost-push inflation in South Korea which is rising input prices that increases cost of production and hence the prices of goods and services. For the monetary policy to affect rising input prices, the rate hike needs to be extremely large which may not be feasible as it harms the economic well-being of consumers. Hence, alongside BOK's **intervention**, another form of supporting **intervention** is required, targeting the supply side which is excluded under monetary policy. For example, government **intervention** by investment in research and development can be used to decrease unit cost of production by improving production methods which will increase SRAS due to increased productive efficiency and hence reduce cost-push inflation.

<b>Subject</b>	Economics
<b>Commentary Number</b>	3

<b>Article Title</b>	U.S. hikes duty on Canadian softwood lumber to 17.9% — twice the old rate
<b>Source URL</b>	<a href="https://ici.radio-canada.ca/rci/en/news/1842668/u-s-hikes-duty-on-canadian-softwood-lumber-to-17-9-twice-the-old-rate">https://ici.radio-canada.ca/rci/en/news/1842668/u-s-hikes-duty-on-canadian-softwood-lumber-to-17-9-twice-the-old-rate</a>

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<b>Word Count</b>	800



# U.S. hikes duty on Canadian softwood lumber to 17.9% — twice the old rate

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 [radio-canada.ca/rci/en/news/1842668/u-s-hikes-duty-on-canadian-softwood-lumber-to-17-9-twice-the-old-rate](https://www.radio-canada.ca/rci/en/news/1842668/u-s-hikes-duty-on-canadian-softwood-lumber-to-17-9-twice-the-old-rate)

On Wednesday, the U.S. Department of Commerce said it will proceed to impose duties of 17.9 per cent, on average on softwood lumber imported from Canada. That's twice the previous 8.99 per cent rate.

In May, the U.S. government said it planned to hike the rate to 18.32 per cent, but after further analysis over the summer the agency decided to ratchet down that plan, but still double the levy.

The U.S. says Canadian lumber producers dump their product into the U.S. at a lower price than American lumber companies can because they are subsidized. So the U.S. puts a tariff on all softwood lumber from Canada to raise its price at the retail level, which encourages consumers to buy American wood.

Canada has long rejected those allegations, and various trade tribunals on the matter have found in Canada's favour.

"At every step of the way, rulings have found Canada to be a fair trading partner," International Trade Minister Mary Ng said in a news release, in which she expressed how "disappointed" Ottawa was in the decision.

"The United States has long relied on Canadian lumber products to meet its domestic needs for high-quality building materials," Ng said.

"These unjustified duties harm Canadian communities, businesses, and workers. They are also a tax on U.S. consumers, raising the costs of housing, renovations, and rentals at a time when housing affordability is already a significant concern for many."

## Not all lumber will face the same duty

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Canada exports about \$8 billion worth of softwood lumber to the world every year, according to official government data. The U.S. is the largest single buyer of it.

Ng says Canada will continue to defend the industry from the unfair tariffs, including through litigation under North American trade deal CUSMA, its predecessor NAFTA, and the World Trade Organization. As recently as the summer of 2020, the WTO ruled in Canada's favour (new window) on the matter.

Not all Canadian lumber will face the same duty, as the U.S. alleges that different companies are subsidized to different levels. The final rates are as follows:

- Canfor Corp., 19.54 per cent.
- West Fraser Timber Co., 11.12 per cent.
- Resolute Forest Products Inc., 29.66 per cent.
- JD Irving, 15 per cent.

All other Canadian lumber producers will see the baseline 17.9 per cent rate.

Each of those rates are down slightly from what was proposed in May, but well up from the level they were at before that.

## Provincial reactions

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The British Columbia Lumber Trade Council says the tariffs make no sense because the U.S. does not produce enough softwood to meet its own demand.

Official data shows that the U.S. only produces enough softwood lumber to satisfy about 70 per cent of its own need. Virtually all the rest comes from Canada.

"Our strong hope is that the U.S. industry will end this decades-long litigation and instead work with us to meet demand for the low-carbon wood products the world wants, including American families," stated council president Susan Yurkovich.

"Until then, we will continue to vigorously defend our industry against these meritless allegations."

Alberta Agriculture, Forestry and Rural Economic Development Minister Nate Horner said the higher tariffs are completely unacceptable.

"Any amount of duties unfairly targets our softwood lumber exports and these decreasing and then increasing rates create uncertainty on both sides of the border," he said in a news release.

New Brunswick Premier Blaine Higgs also expressed his disappointment in the decision. "We're very disappointed with the U.S. government's decision to increase these unfair and unwarranted duties against New Brunswick's exports of softwood lumber," he said (new window).

## U.S. lumber lobby group welcomes news

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The U.S. Lumber Coalition, the lobby group that represents the industry in the country, welcomed the tariffs, saying in a press release that it "remains open to a new softwood lumber trade agreement if and when Canada can demonstrate that it is serious about negotiations for an agreement that offsets the injury caused by Canadian unfair trade to U.S. producers, workers, and timberland holders.

"Until then, the U.S. Lumber Coalition fully supports the continued strong enforcement of the U.S. trade laws to address Canada's unfair softwood lumber trade practices."

The group says while it is true that the U.S. has historically not produced enough softwood lumber to meet its own demand, that is no longer the case, as U.S. producers have boosted their capacity in recent years and now produce about 3.5 billion board-feet of softwood lumber every year.

"These increases have more than offset any decline in unfairly traded Canadian imports and are enough lumber to build about 1.2 million single-family American homes," the group says.

## **\$99 for every thousand feet of wood**

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At current lumber prices, CIBC analyst Hamir Patel calculates that for every thousand feet of softwood lumber Canada exports to the U.S., there will now be an extra \$99 in tariffs tacked on. That's up from \$54 currently.

While the dispute has gone on for decades, Patel ultimately thinks the two sides will eventually work out some sort of deal that will see most of that tariff money returned.

"But we do not believe any deal is likely to materialize until late 2022 at the earliest (and more likely 2023 given U.S. midterm elections next year)," Patel wrote in a note to clients.

## **Opposition reacts**

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While the dispute has festered during numerous governments for more than two decades, the Federal Conservatives placed the blame squarely at the feet of Prime Minister Justin Trudeau for allowing the trade relationship with the U.S. to sour.

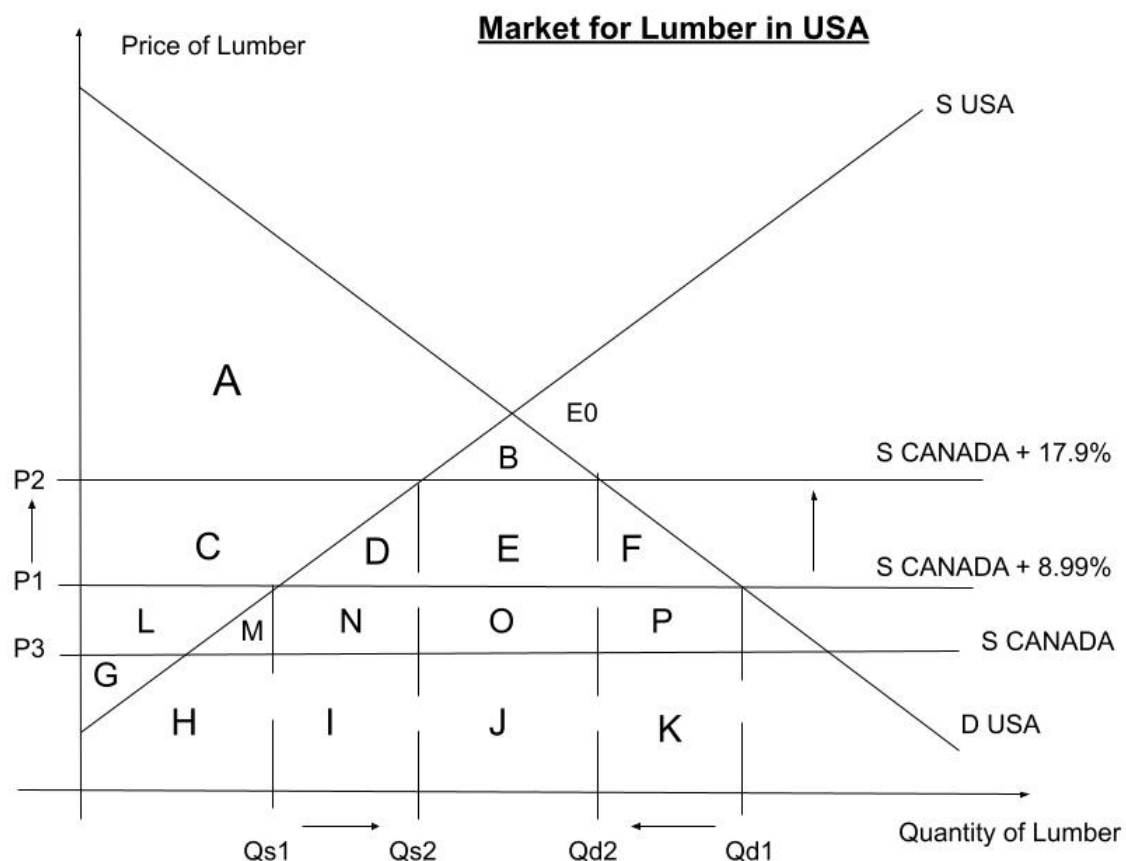
"It's clear Canada's relationship with the United States has declined under Mr. Trudeau, hurting cross-border businesses and threatening Canadian jobs," Conservative MPs Michael Chong and Randy Hoback said in a statement.

"Trudeau's approach to these threats has been to play down their seriousness and to sound hopeful [but] downplaying these threats and being hopeful is not a plan to protect Canadian jobs."

International trade lawyer Lawrence Herman agrees that the lumber dispute is going to continue to fester until governments in Ottawa and Washington, D.C., find the political will to strike a long term deal to fix it once and for all.

"Let's get together, settle this thing once and for all," he said in an interview. "It's too important for Canada and the United States to be engaged in these kinds of trade disputes."

In November 2021, the U.S. Department of Commerce imposed an average import tariff, referring to an indirect tax on imported goods, of 17.9% on Canadian softwood lumber, approximately double the 8.99% previously. The article highlights the key concept of **interdependence** as various stakeholders within the economy, and internationally, interact to achieve economic goals generating unintended economic consequences for the other stakeholders through decisions such as the implementation of a lumber tariff.



Before the imposition of the new tariff, the price of Canadian softwood lumber imported into USA with the initial 8.99% tariff is illustrated by P1. However, with the increase in tariffs to 17.9%, the price of Canadian softwood lumber rises to P2. This price increase harms American lumber buyers by reducing their consumer surplus from

$A+B+C+D+E+F$  to  $A+B$ . Furthermore, there is a reduction in the quantity of lumber available in the market as the quantity of Canadian lumber imports decreases from  $Q_{d1}-Q_{s1}$  to  $Q_{d2}-Q_{s2}$ . Hence, this decreases consumer welfare due to the lower quantity of lumber in the market as well as the decreased consumer surplus due to lumber tariffs.

Lumber produced and imported from Canada acts as a substitute of lumber produced in US, hence, the US government imposed tariffs on Canadian lumber in an act of protectionism to decrease quantity supplied of Canadian lumber and thus encourage consumers to purchase US produced lumber instead. This demonstrates how the demands of lumber from firms of both countries are **interdependent**. The increase in tariffs causes prices of Canadian lumber to increase from  $P_1$  to  $P_2$ , also increasing the price of US lumber as US are inferred price-takers. Due to the increase in tariffs and prices, the quantity of Canadian lumber imported into the US decreases from  $Q_{d1}-Q_{s1}$  to  $Q_{d2}-Q_{s2}$ . As a result, the total revenue of Canadian firms decreases by  $I+K$  from  $P_3 \times (Q_{d1}-Q_{s1})$  to  $P_3 \times (Q_{d2}-Q_{s2})$ . This reduces profits of Canadian lumber firms as profit is calculated by total revenue – total cost. However, due to the decrease in quantity of imports, consumers purchase American lumber instead, increasing American lumber's quantity demanded, hence increasing the total revenue of American lumber firms by  $C+D+N+I$  and thus their profits. Therefore, the American and Canadian lumber firms' total revenues are **interdependent** as the decrease in total revenue for Canadian firms translates to an increase in total revenue for American firms due to them being close substitutes.

The decrease in total revenue for these Canadian lumber firms reduces profits of the firms such that they are less willing and able to employ Canadian workers at the same wage rate, thus decreasing demand for labour. As a result, the employment rate and income level of these Canadian workers decreases, harming the workers by reducing their standard of living. This impact illustrates the **interdependence** between the Canadian labour market and the Canadian lumber export market to USA. The adverse impact also highlights potential harm on the trade relations between US and Canada which can lead to disadvantages to other stakeholders involved in trade between the two countries.

Furthermore, since lumber is a key input in many American industries such as construction, increase in lumber prices due to new tariffs in America will hurt these American industries by raising their cost of production. This increase in total cost will decrease profits of the construction firms as profits are calculated by total revenue – total cost, harming the American construction firms and thus demonstrating the **interdependence** of the lumber and construction industry. In order to continue operations, these firms may pass on the increased costs to households in the form of higher housing construction and renovation prices, harming the US house buyers. As a result, US house buyers may rent houses instead as it is a substitute for buying a house, increasing the quantity demanded of rentals and hence the rental prices due to **interdependence** with the construction industry. Overall, average American consumers are harmed by reduction of their consumer surplus as construction, renovation, and rental prices increase.

Overall, imposition of the revised lumber tariffs largely only benefits American lumber firms by increasing their profits. Due to **interdependence** of various stakeholders, there are multiple industries and groups indirectly affected within the economies of USA and Canada who face disadvantages in the long and short run due to these tariffs. Hence, the US government must consider the **interdependence** amongst the various stakeholders and weigh the cost-benefit terms of this increase in tariffs by identifying the stakeholders to prioritise as well as recognising the extent of the impacts on them respectively when assessing whether this policy is desirable. Furthermore, the government must also consider the potential impact on other industries involved in trade between US and Canada as adverse impacts on Canada's stakeholders due to this tariff can contribute to worsening trade relations potentially hindering trade in other sectors between both countries.