



EPISODE OVERVIEW, QUESTIONS, & EXTENSIONS

Season 2 Episode 1

Gross Domestic Product & Natural Resources

OVERVIEW

This episode explores the “Resource Curse,” the paradox that countries rich in natural resources can experience slower or less stable gross domestic product (GDP) growth than resource-poor countries. Using cross-country examples and state comparisons within the United States, the episode explains how sudden resource booms can increase GDP in the short run while undermining long-term growth through reduced economic diversification, currency appreciation, population shifts, and weakened institutions. The episode highlights how boom-and-bust cycles affect investment, labor and capital markets, and migration—and how deliberate policy choices, such as investing resource revenues in education, infrastructure, and diversification, can turn resource wealth into sustained economic growth.

Key Macroeconomics Links

- **Gross Domestic Product (GDP):** The total market value of all final goods and services produced within a country in a given period of time. Typically, real GDP is used to capture the overall production of goods and services.
- **Measurement of economic growth:** The economic growth of a nation is commonly measured by its percentage change in real GDP over time.
- **The Resource Curse:** A phenomenon where resource-rich countries experience slower long-run real GDP growth and greater economic instability despite abundant natural wealth.
- **Dutch Disease:** A decline in the growth of real GDP, due to increases in natural resource exports that crowd out other sectors of the economy.
- **Boom-and-Bust Cycles:** Also known as the business cycle, this is characterized by periods of rapid expansion followed by contraction in economic activity, typically measured by changes in real GDP and unemployment rates.

Preview Question

If a country suddenly discovers large sources of oil or minerals, do you think its people will be made better off? Why or why not?

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Discussion Questions

1. Why might a sudden increase in natural resources raise GDP in the short run but slow GDP growth in the long run?
2. Why might GDP rise when a country discovers oil or minerals, even if life does not improve for most people? Who benefits from this discovery?
3. Explain the impact on the economy across all sectors when there is a large resource discovery. Discuss the idea of Dutch disease and how exports might be affected.
4. What are some impacts that resource discoveries and resource extraction can have on the local areas where they occur? Are the impacts good for everyone in the local area?
5. Does higher GDP always mean an economy is healthier? How does the resource curse complicate this idea?
6. Why are dramatic boom-and-bust cycles especially common in resource-dependent economies? Should the government implement policies to “smooth” these cycles?
7. How can resource extraction affect population growth within a state? How can local areas protect against the negative effects of extractive industries in the long run?
8. How does the resource curse challenge the idea that higher GDP always means higher individual well-being? How should we measure growth and individual well-being?
9. What policies helped countries like Norway avoid the resource curse? How can policies more broadly be designed to “smooth” the boom and bust cycle?
10. Why might a developing country be more susceptible to the resource curse? Does the type of government and infrastructure impact the severity of the resource curse?

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Multiple Choice Questions

1. Which concept describes how an increase in natural resource exports leads to currency appreciation and a decline in exports of other goods in the economy?
 - A. Natural resource curse
 - B. The Truman effect
 - C. Tragedy of the commons
 - D. Dutch disease

Answer: D

2. The natural resource curse refers to when
 - A. Countries with abundant natural resources grow so quickly that they harm the economies of competing countries.
 - B. Natural resource extraction often leads to pollution and poorer public health.
 - C. Countries with abundant natural resources sometimes experience slower long-run economic growth than countries with fewer natural resources.
 - D. Countries with abundant natural resources deplete them too quickly, creating long-run economic problems.

Answer: C

3. In the identity $Y \text{ (GDP)} = C \text{ (Consumption)} + I \text{ (Investment)} + G \text{ (Government Spending)} + NX \text{ (Net Exports)}$, which component is influenced most when a natural resource discovery first occurs?
 - A. Consumption
 - B. Investment
 - C. Government Spending
 - D. Net Exports

Answer: B

4. Why might a sudden increase in natural resource wealth raise GDP in the short run but slow growth in the long run?
 - A. Resource booms reduce exports immediately
 - B. Short-run production increases may crowd out other sectors and reduce diversification
 - C. Governments immediately increase taxes on households
 - D. Labor supply permanently declines

Answer: B

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5. Why does GDP rise when a country discovers oil or minerals, even if life does not improve for most people?
- A) GDP measures total output, not how income or benefits are distributed
 - B) GDP adjusts automatically for inequality
 - C) Resource discoveries reduce prices economy-wide
 - D) GDP excludes natural resource production

Answer: A

6. Why are dramatic boom-and-bust cycles especially common in resource-dependent economies?
- A) Resource prices are heavily regulated
 - B) Resource extraction requires little investment
 - C) Commodity prices tend to fluctuate widely in global markets
 - D) Resource sectors are labor intensive

Answer: C

7. Why might population growth in a state fluctuate with increased natural resource extraction?
- A) Birth rates fall permanently when there is a discovery
 - B) Migration flows respond to changing job opportunities
 - C) Governments restrict movements across states to stabilize populations
 - D) Education levels decline with more extraction

Answer: B

8. How does the resource curse challenge the idea that higher GDP always means higher well-being?
- A) Higher GDP reduces access to public services
 - B) GDP ignores exports
 - C) GDP growth can mask instability, inequality, and long-run institutional decline
 - D) GDP only measures short-run consumption

Answer: C

9. What policies helped countries like Norway avoid the resource curse?
- A) Rapid privatization of resource firms
 - B) Heavy reliance on consumption spending
 - C) Saving and investing resource revenues in education and infrastructure
 - D) Eliminating non-resource sectors

Answer: C

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10. What lesson does the resource curse offer for countries discovering new technologies or industries, not just natural resources?
- A) New industries always raise GDP permanently
 - B) Governments should avoid innovation
 - C) Temporary booms require long-term investment and diversification strategies
 - D) Technology sectors do not affect labor markets

Answer: C

True / False Questions

1. A country's GDP can increase during a resource boom even if most citizens do not experience higher living standards.
Answer: True
2. Dramatic boom-and-bust cycles are more common in economies that rely heavily on natural resource exports.
Answer: True
3. Dutch disease occurs when resource booms make other export sectors less competitive.
Answer: True
4. GDP measures how evenly income is distributed across a population.
Answer: False
5. Natural resource booms can attract labor away from other sectors of the economy.
Answer: True
6. State population declines following a decline in resource extraction can signal weaker long-term economic prospects.
Answer: True
7. The resource curse applies only to developing countries with weak institutions.
Answer: False
8. Investing the revenues from natural resources in education and infrastructure can help promote long-run GDP growth.
Answer: True
9. If a resource discovery leads to higher total import value than total export value, net exports are negative.
Answer: True

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10. A country that discovers valuable natural resources will always experience faster long-run economic growth.

Answer: False

Application Questions

Question #1: Short-Run vs. Long-Run GDP

Suppose Country A discovers a large oil reserve. The GDP for Country A is shown in Table 1, below.

Table 1. Country A Real Gross Domestic Product

Year	Real GDP (Billions \$)
2018	120
2019	125
2020	160
2021	158
2022	155

Questions

1. Calculate GDP growth each year for Country A.
2. Identify the years in which the business cycle boom appears and when the bust occurs.
3. How does GDP change during and after the boom?
4. Graph the GDP over time. Explain how the boom and bust cycles might change if there were a large natural resource discovery in 2022.

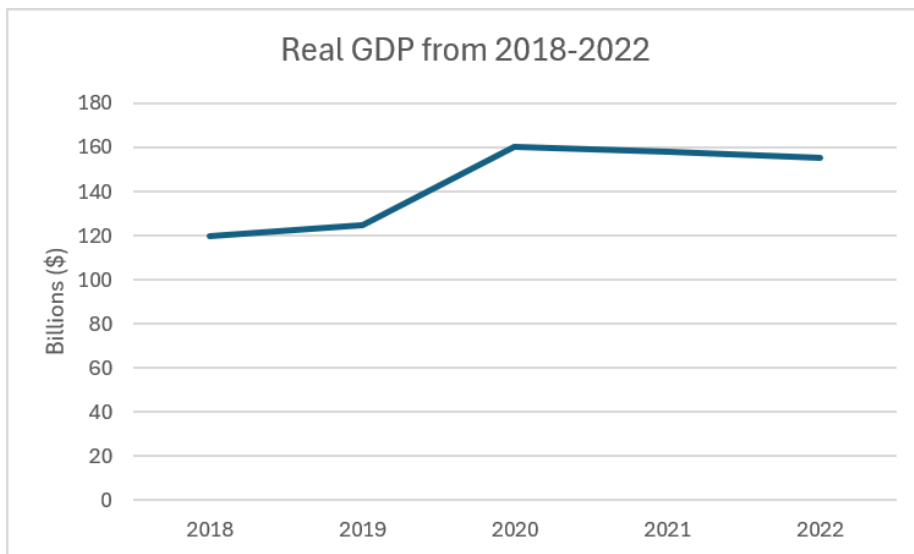
Answers

1. Growth rates: 2019: 4.17%, 2020: 28%, 2021: -1.25%, 2022: -1.9%
2. The boom period occurs in 2020 and the bust period occurs in 2021 and 2022.
3. GDP increases during the boom and falls for the two years afterward. GDP falls from a high of 160B in 2020 to 155B in 2022.

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4. See graph. If there were a resource discovery in 2022, you might see real GDP increasing more during that period, due to new investment in the resource industry.



Question #2: Composition of GDP

Questions

1. State the components of GDP in an equation.
2. Explain how a sudden resource discovery would initially impact GDP through this identity.
3. As exports increase for the natural resource and decrease for other goods in the economy, how will this impact GDP?
4. In the long run, using this identity, how can policies have a positive influence on GDP?

Answers

1. $Y \text{ (GDP)} = C \text{ (Consumption)} + I \text{ (Investment)} + G \text{ (Government Spending)} + NX \text{ (net exports)}$
2. Initially, you would expect the resource discovery to increase Investment (I), leading to higher levels of Y (GDP).
3. Over time, if there was no diversification in industries, the lack of other exports could lead to a decline in net exports (NX), leading to lower levels of GDP or GDP growth.
4. When government policies allocate resource revenues to infrastructure, government spending (G) and investment (I) rise, leading to higher consumption (C) and sustained economic growth.

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Innovative Ways to Extend the Lessons

1. Listen to our podcast!

- **Student Assignment:** Listen to the generated podcast summary and reflect: *What is lost or gained when research is translated into casual language? What do you note here that you did not when watching the video? What does the video do a better job of explaining? What do you understand better from both listening to the podcast and watching the video?*

2. Compare Countries

- Using the [Our World in Data](#) website, have students compare time trends of real GDP over time for a resource-rich country and a resource-poor country. Discuss how diversification affects outcomes for these countries.
 - Using the same data for the countries mentioned in the episode, can you find an instance of Dutch disease or resource curse?

3. GDP Beyond the Boom

- Ask students to research a historical resource boom that has occurred in a U.S. state and evaluate whether real GDP growth translated into long-term economic stability.