



JBS

- Large-scale meat provider company
- Processes, packs, and transports meat and poultry products to customers in more than 100 countries.

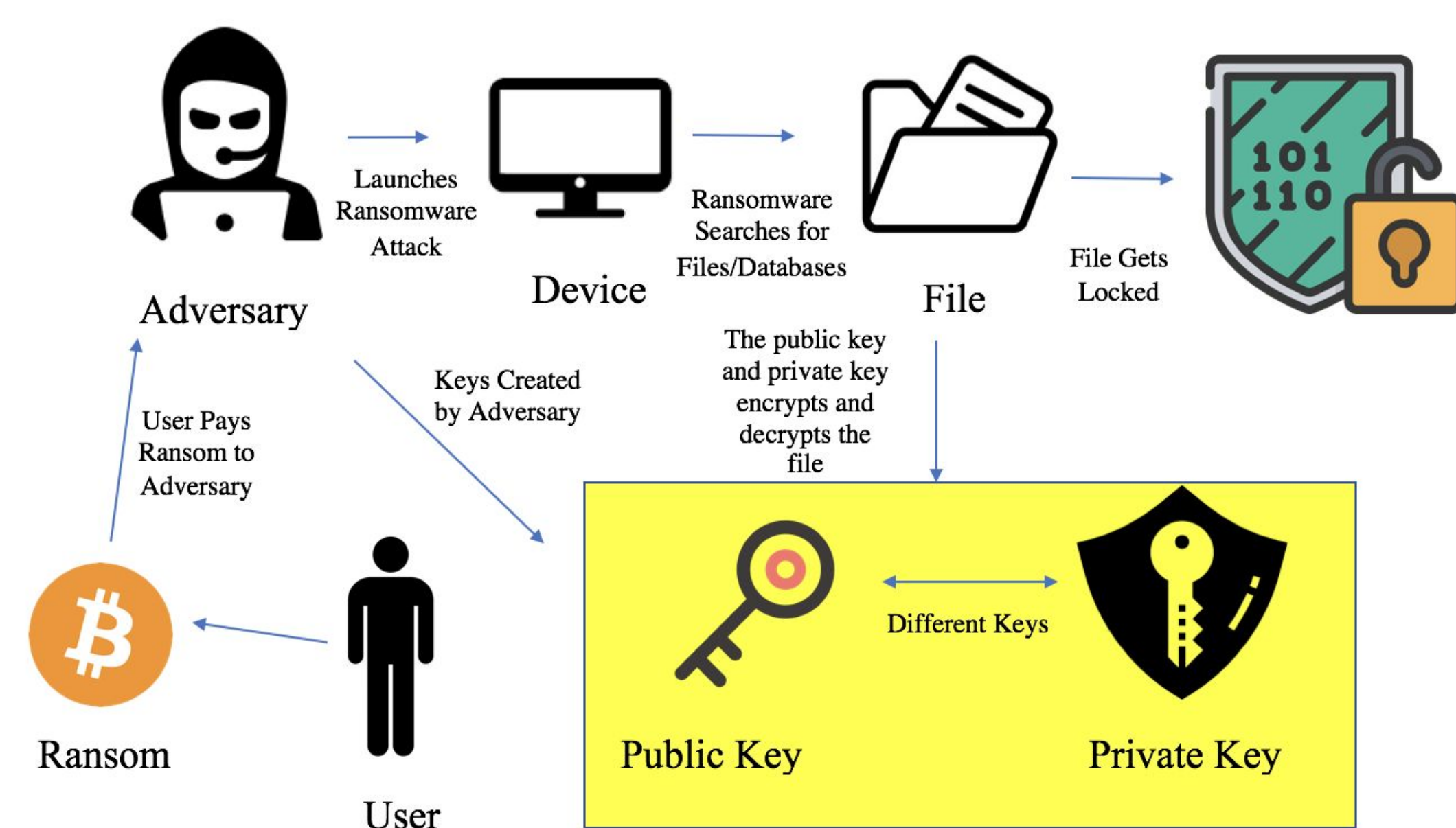
What happened to JBS?

- JBS became the target of a ransomware attack on May 30, 2021, by REvil, the criminal network of ransomware hackers.
- Announce shutdown on May 30, 2021
- Shut down for 4 days (May 30, 2021 to June 2, 2021)
- Reopened on June 3, 2021

What is Ransomware Attack?

- A malicious software that prevents access to information until a ransom is paid.
- Designed to spread across network and target databases to paralyze devices or the entire server of organizations

How Ransomware Works

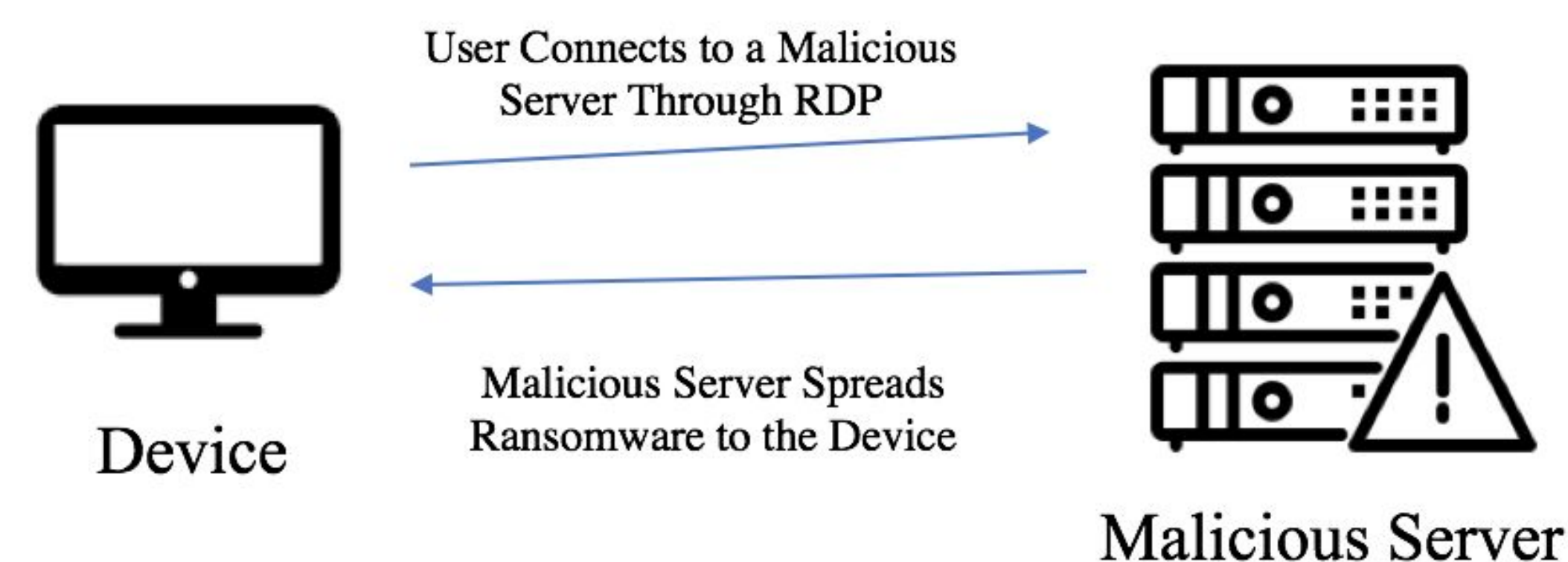


TECHNICAL DETAILS

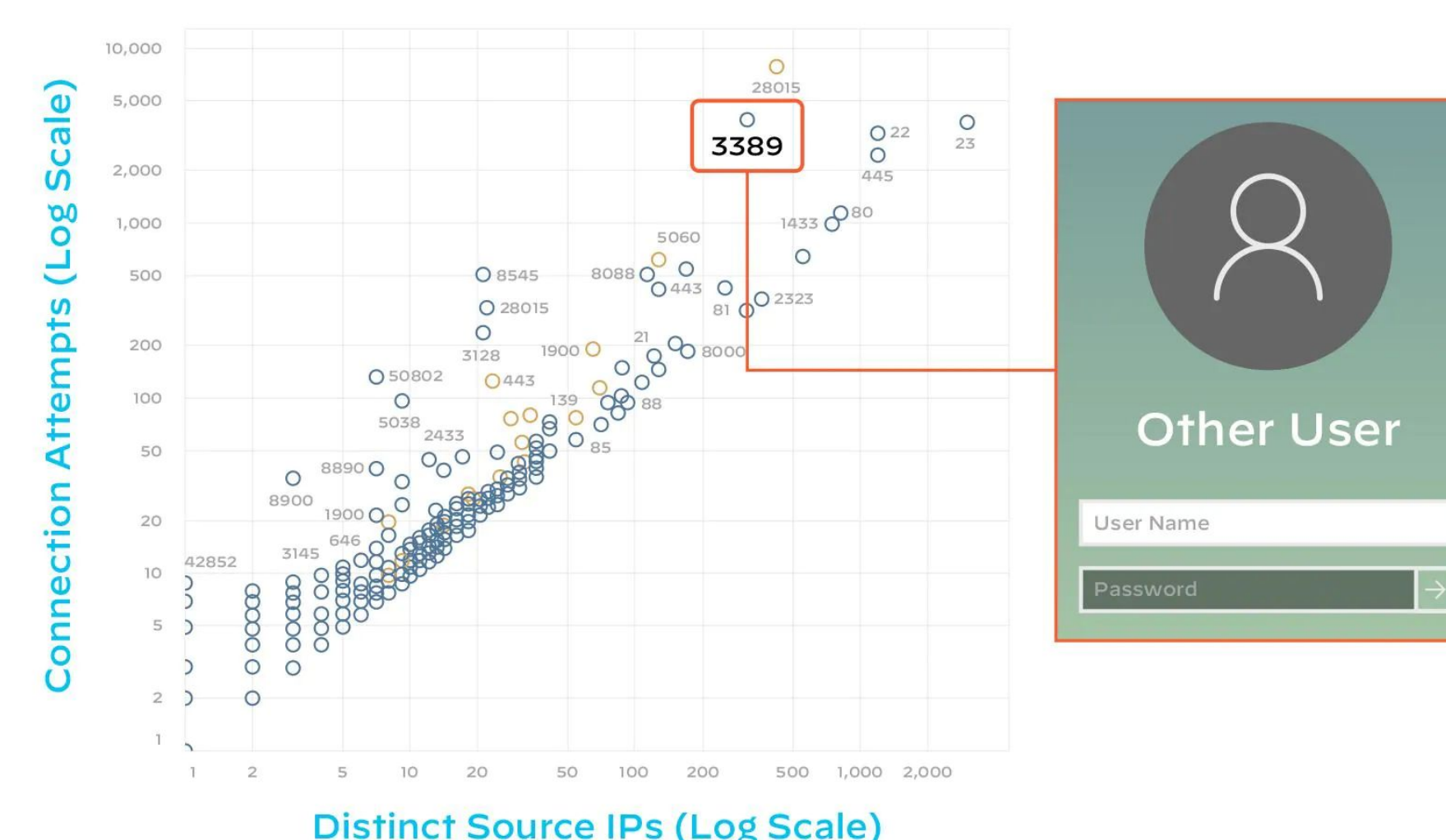
How REvil Launched Attack on JBS

- Exact method REvil used is unknown
- Assume REvil used one of the remote access protocols
 - a. Remote Desktop Protocol (RDP)

#Reverse attack



#Port 3389



How the Attack Could Have Been Prevented

(Prevent RDP Ransomware Attack in general)

- Back up the data in different locations
- Safe surfing and using secure networks
- Making the steps to log in difficult
 1. Strong password to prevent dictionary attacks
 2. Multi-Factor Authentication (MFA)
- Limiting access on the RDP
- Closing RDP ports
- Updating RDP servers & Never connecting to RDP Servers that is not updated nor secured

Impact of Attack

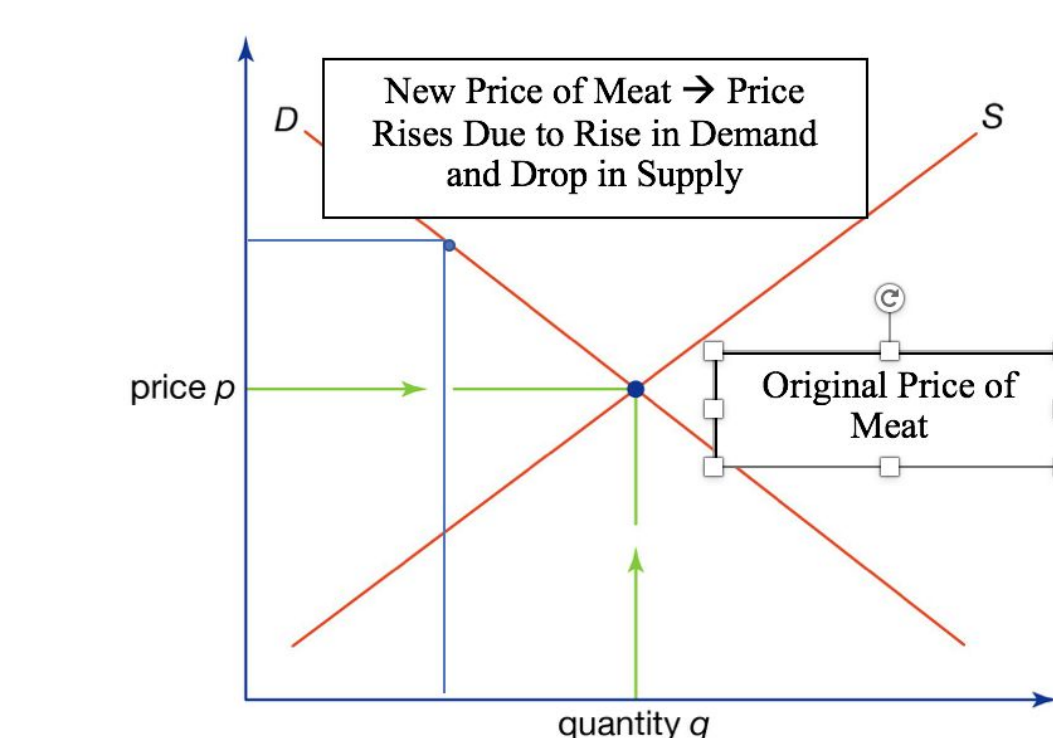
JBS

- Total of 5TB Data Exfiltration to Mega and other malicious IPs in Hong Kong
- Temporarily close meat plants in the US and Canada
- Paid 11 Million Dollars to Adversary
- Revenue loss of approximately 308 Million Dollars

Economy

- Demand for meat increase & supply of meat decrease lead to the increase in price of meat
- FAO announce that May 2021 marked highest peak of food prices since 2011

Supply and demand



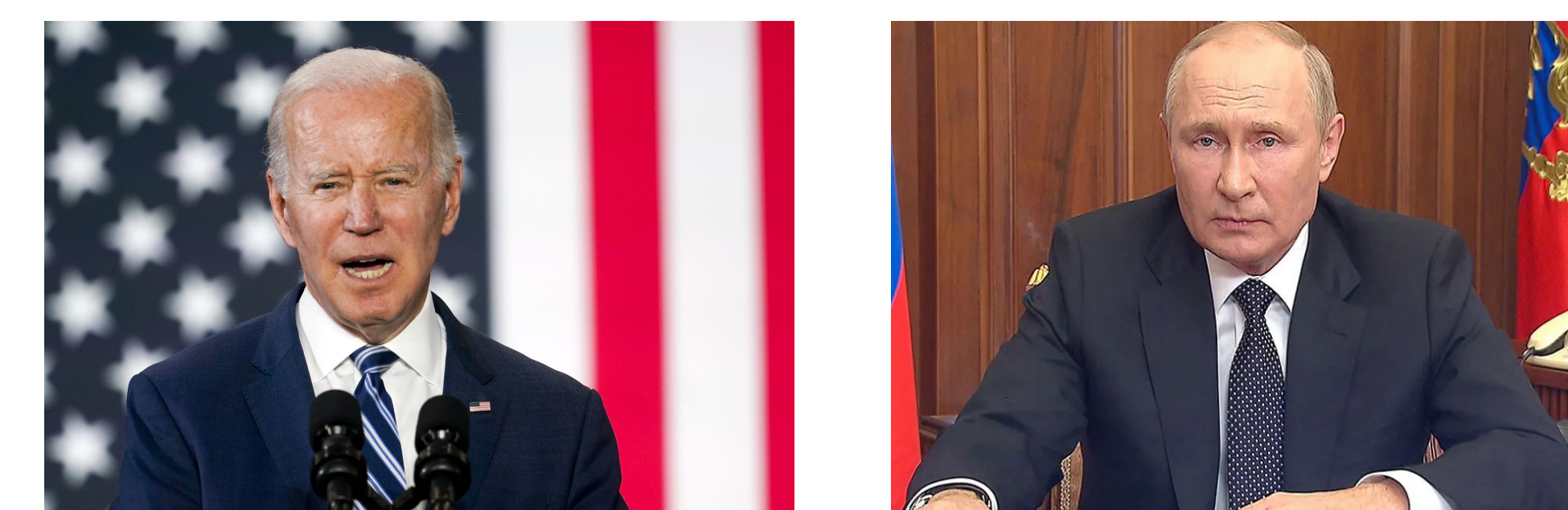
FAO food price index

		Food Price Index ¹	Meat ²
2021	January	113.3	96.0
	February	116.4	97.8
	March	119.1	100.8
	April	121.3	102.7
	May	127.1	105.0

Legal & Ethical Issues Raised

Role of Russia in Attacks Against the US

- President Joe Biden confronted President Vladimir Putin that ransomware criminals from Russia could have worked with the Russian government
- President Biden declared that Vladimir Putin should take actions to prevent cyber attacks from Russia



US Business Infrastructure – Cybersecurity

- Until June 2021, US has no cybersecurity requirements for businesses outside of the banking, electric, and nuclear field
- US infrastructure would have been more difficult against ransomware attacks without the defeat of legislation in 2012 that would have set cybersecurity standards for industries
- The decision of JBS to pay \$11 Million to REvil might have incentivized adversaries for further attacks on critical U.S. infrastructures