Real Assets:

Timber, Farmland, Infrastructure, Commodities

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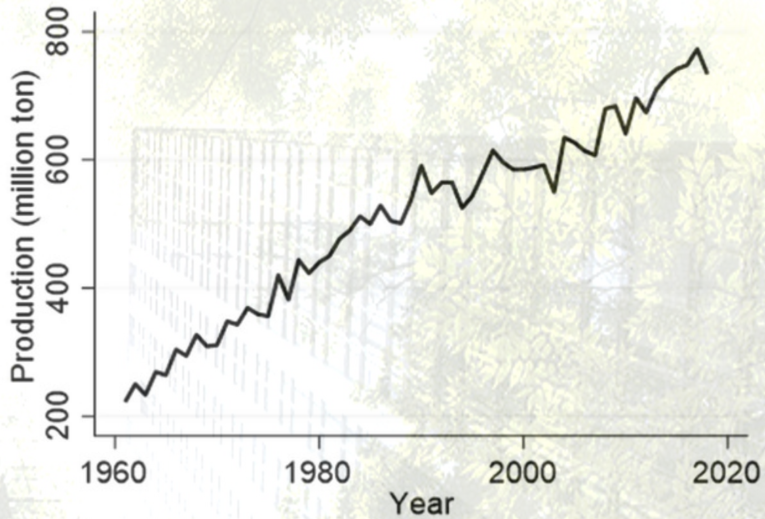
What are Real Assets

- Real Assets are physical, tangible assets that have intrinsic worth
  - A pine forest in the Pacific Northwest, a field of corn, an oil pipeline, etc.
- Investment vehicles are varied
  - Public equity stocks, ETFs, Pooled Funds, or Separate Accounts
  - Real Asset ETFs are more of an equity surrogate, while Pooled Funds of Real Assets are closer to a fixed income surrogate



- The global consumption of wheat for 2023 was estimated to be 791 million metric tons.

Types of Real Assets

Timber:

- Forests either natural or planted, harvested for their wood

Farmland:

- The purchase and leasing or operation of commercial farms

Infrastructure:

- Fixed assets used to move or store a commodity or service

Commodities:

- Ownership of a basic good or raw material, or a contract for delivery or sale of a basic good or raw material

Potential Benefits of Real Assets

- Inflation mitigation
- Return enhancement relative to fixed income
- Diversification benefits due to low correlation to equity
- Asset value provides some downside protection

20-Year Quarterly Return Correlations

	S&P 500	Core Fixed	Timber	Farm	Infra	Comm
S&P 500	1.00	0.06	-0.07	0.05	0.80	0.46
Core Fixed	0.06	1.00	0.03	0.00	0.16	-0.31
Timber	-0.07	0.03	1.00	0.73	0.03	-0.12
Farm	0.05	0.00	0.73	1.00	0.10	-0.16
Infra	0.80	0.16	0.03	0.10	1.00	0.57
Comm	0.46	-0.31	-0.12	-0.16	0.57	1.00

Data range from 6/30/2004-6/30/2024

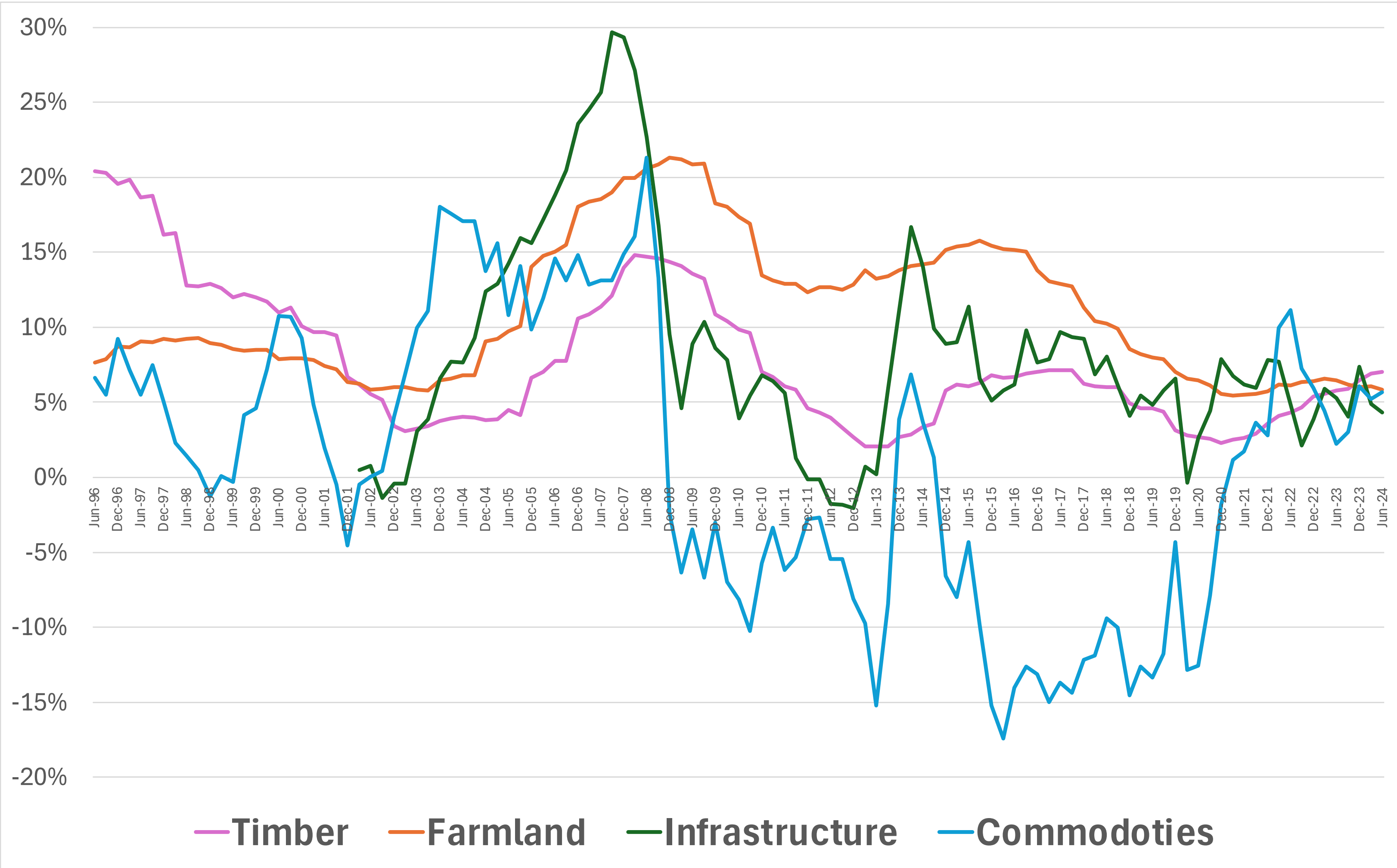
Potential Drawbacks of Real Assets

- The nature of the underlying assets and the audit process result in infrequent valuations, typically once per quarter

- Most investment vehicles are illiquid, and usually involve significant lock-up periods where capital cannot be withdrawn

- Many funds require a startup period, where they must first acquire assets or ramp-up production, delaying the potential return stream for some time past the initial funding

Rolling 5 Year Real Return



Infrastructure index was not available for the entire period.
Periods ending 6/30/2024

Timber

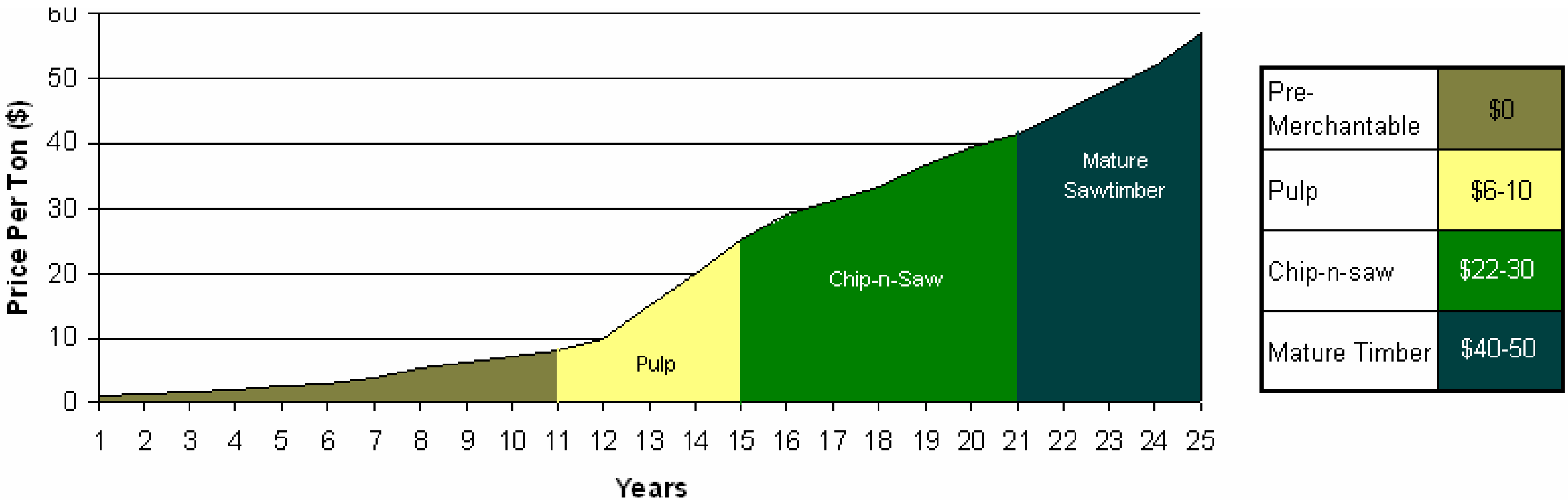
Timber

- Forests either natural or planted, harvested for their wood
- Trees are categorized as hardwood or softwood
  - Hardwood (e.g. Maple, Beech, Birch, Oak)
  - Softwood (e.g. California Redwood, Douglas Fir, Pine)
- Purchase or lease timberland property
- Expected net of fee return of 5-9% with 3-5% annual yield

Managing the Trees

- Trees grow in volume and value as they mature
    - Volume growth of Southern Pine is approximately 6%-8% per year
    - Value (price per ton) increases as the tree matures

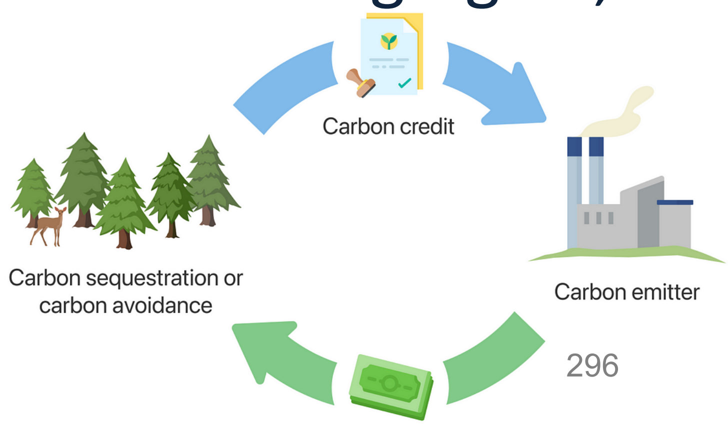
Pulp	→ **Chip-n-Saw**	→ **Mature Sawtimber**
11-15 years	15-21 years	21+ years
$6-$10	$22-$30	$40-$50



Source: Molpus Woodland Group

Potential Timberland Benefits

- Carbon credits may increase income stream
- Fixed stock of timberland is shrinking
- Increased demand from housing starts, which is related to population growth
- Ancillary revenue streams such as hunting rights, mineral rights, solar credits



Timber Drawbacks and Risks

- **Drawbacks**
  - Liquidity
    - Investments could be locked up for 10-17 years
  - Sensitivity to the U.S. housing market
    - The housing market makes up roughly 2/3rd of the timber demand

- **Risks**
  - Natural
    - Fire, hurricanes, insects
    - Risk varies greatly across geographies
  - Economic cycle
    - Associated with the supply/demand and fund characteristics
    - Lumber prices are volatile in the short-term but the overall impact can be reduced through active management and harvest scheduling

How to Invest in Timber

- **Public Equity and ETFs**
  - WOOD – Fee 42 bps, average daily volume 15,000 shares
  - CUT – Fee 61 bps, average daily volume 6,000 shares
  - Weyerhaeuser (WY), Rayonier (RYN), or CatchMark (CTT)

- **Separate account**
  - Higher minimum account size, typically in starting at $20 million
  - Lower fees relative to commingled funds
  - The property doesn't have to be sold at a designated point in time

- **Pooled funds**
  - Combine money from smaller investors to buy large timber properties
  - Management fees are typically in the 1.5% range annually, with incentive fees upwards of 15% after a required return, mostly around 7%

Farmland

Farmland

- The purchase and leasing or operation of commercial farms
- Row Crops: planted annually
  - Lower margin crops that mature in 11-14 weeks
  - Grains & oil seeds: corn, soybeans and wheat
  - More stable income from rent and capital returns over time
  - 10-year average return: 10% annualized
- Permanent Crops: annual replanting is cost prohibitive
  - Mature in 3-7 years (good for 25+ years)
  - 70-80% of value is in the tree/vine
  - Nuts, citrus, apples, cranberries and grapes
  - More volatile income from farm operations and commodities
  - 10-year average return: 14% annualized

Farmland – Operating Structure

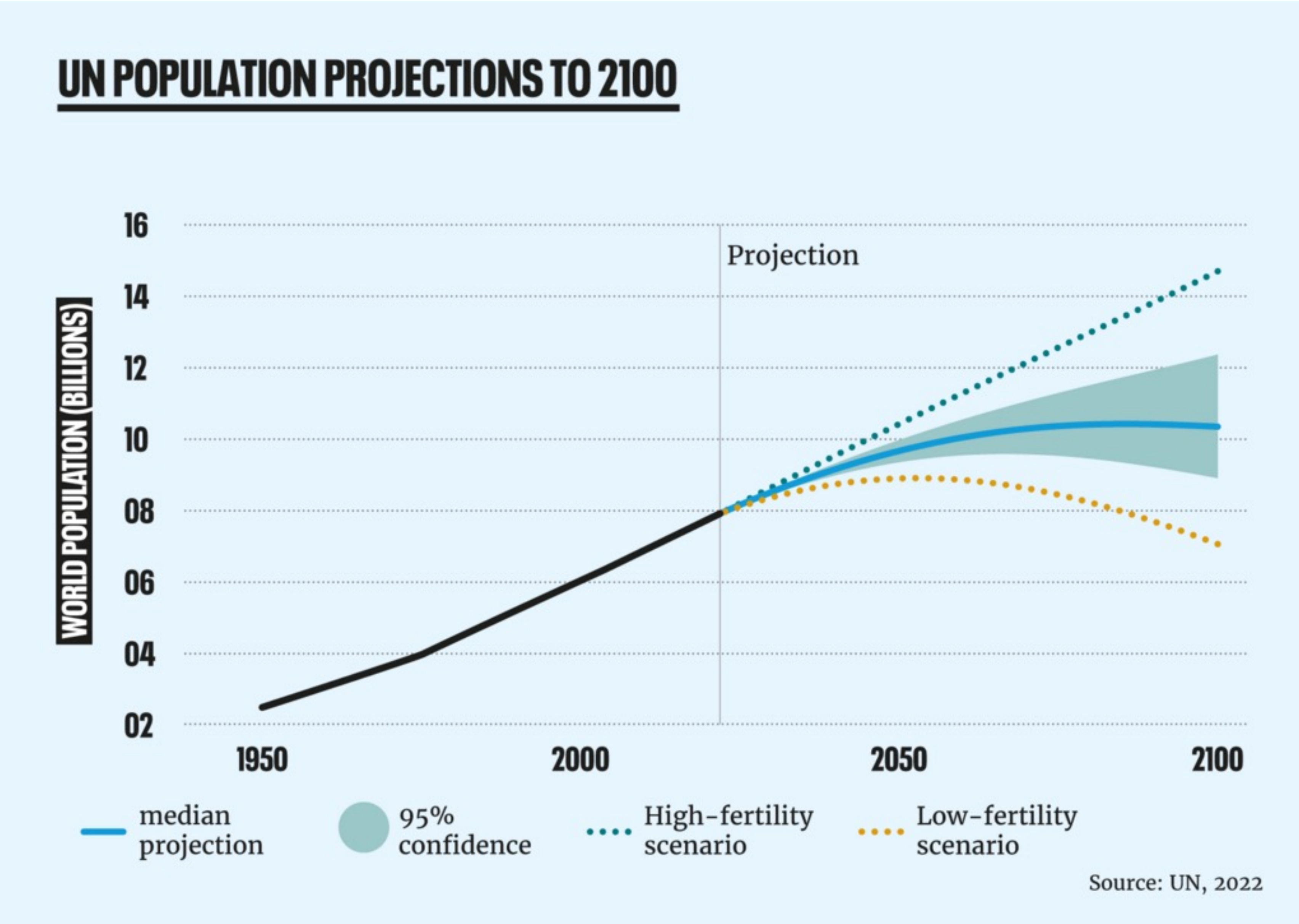
Ownership Structure	Strategy	Commodity Exposure	Commodity Risk	Expected 10 Year Performance
Fixed Cash Lease	Fixed rent with annual increase	Low	Low	Total Return 7.0 - 8.0%
Flex Cash Lease	Fixed rent with the potential for a bonus triggered by revenue	Moderate	Low to Moderate	Total Return 9.0 - 10.0%
Direct Operations	Owner pays 100% of the expenses and owns 100% of the crop	High	Moderate	Total Return 10.0 - 11.0%

Risk and return increase along with commodity exposure

Potential Farmland Benefits

- Investment driven by 1) population and 2) affluence
- World population projected to be ~10 billion by 2050, increased standard of living has historically meant a higher protein diet
  - It can take 2lbs to 5lbs of grain to make 1lb of protein
- Fixed stock of arable land is shrinking
- Risk can be adjusted by the contract with the farmer:
  - Investor can own everything and accept all the risk/return
  - Investor can own only the land and collect rent, shifting risk/return to farmer
  - Contract can be structured to share risk/return in some manner

Potential Farmland Benefits



Farmland Drawbacks and Risks

- **Drawbacks**
  - Liquidity
    - Investments could be locked up for 10+ years
  - Fees
    - Alongside a flat asset fee, they frequently include a carried interest fee over a hurdle
  - Few Institutional Managers

- **Risks**
  - Commodity Prices
    - Susceptible to market volatility, including geopolitical risk
  - Natural
    - Insects, Weather, etc.
  - Soil Degradation

How to Invest in Farmland

- **Public Equity and ETFs**
  - REITS – Gladstone Land Corporation (LAND), and Farmland Partners (FPI)
  - ETF – VanEck Vectors Agribusiness (MOO) – average daily volume 72,000 shares
  - Agriculture related company stocks such as Deere (DE), or Monsanto (MON)

- **Separate account**
  - Minimum account size generally >$30 million

- **Pooled funds**
  - Offered in both open-end and closed-end structures
  - Closed-end fund terms range from 10-15 years
  - Typical fees: 1% management, 20% performance

Infrastructure

Infrastructure

- Infrastructure defined: fixed assets used to move or store a commodity or service, originally associated with public-to-private ownership
- Key return drivers
  - Revenue growth
  - Operating cost control
  - Proactive maintenance expenditure
  - On-going capital investment
  - Optimal capital structure

Typical Infrastructure Portfolio

Utilities	• Utilities that want independence but have capex requirements • Regulatory trends (environmental) shape the market
Power	• Assets with multiple revenue streams (energy, capacity, tolling, renewable credits) • Diverse public/private/financial ownership, liquid market
Transportation	• Airports, railways, terminals in gateway ports • Construction opportunities such as roads and bridges
Midstream	• Assets with value through the economic cycle • Demand increase requires build out of supporting infrastructure
Communications	• Towers augmented by organic growth and acquisitions • Build out of wireless networks to serve growing demand, emergency networks
Waste	• Vertically integrated, platform expansion, operational efficiency, consolidation

Brownfield vs. Greenfield Deployments

- **Brownfield infrastructure** refers to existing infrastructure that has been in use and may need to be rehabilitated or remediated before it can be used again

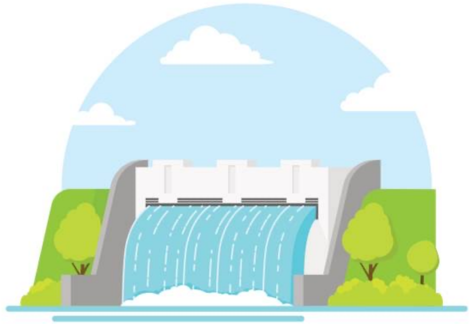
    - **Typically have lower upfront costs than greenfield investments, but they also come with higher risks**
    - **There is greater uncertainty about the condition of the existing infrastructure and the cost of remediation**

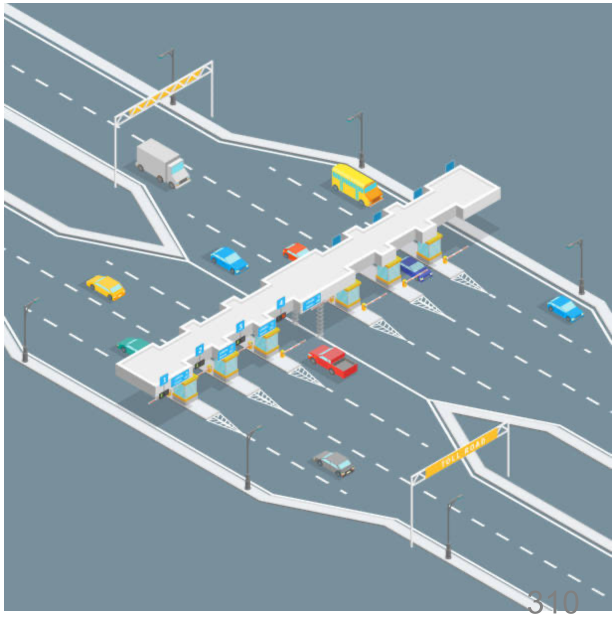
- **Greenfield infrastructure,** on the other hand, refers to new infrastructure that is built from scratch

    - **Higher upfront costs, but potentially lower risks**
    - **The condition of the land and cost of construction are more predictable**
    - **Can take longer to complete and may not be as profitable as brownfield investments**

Potential Infrastructure Benefits

- Essential services for the community
- High barriers to entry
- Stable, predictable cash flows
- Low demand elasticity
- Long operational life





Infrastructure Drawbacks and Risks

- **Drawbacks**
  - Liquidity
    - Like most other types of real assets, investments could be locked up for many years
  - Short track record

- **Risks**
  - Change in regulation
    - New standards and rules may drastically increase costs or cause delays during the lifetime of the investment
  - Economic sensitivity
    - These are typically long-term investments, and are sensitive to recessions, interest rates, and political instability
  - Leverage
    - Borrowed money is used to amplify the potential returns, however, it also magnifies the potential losses

How to Invest in Infrastructure

- **Public Equity and ETFs**
  - ETF – iShares Global Infrastructure (IGF) – average daily volume 375,000 shares
  - Infrastructure related company stock such as Caterpillar (CAT), or US Steel (X)

- **Separate account**
  - Minimum account size typically >$100 million range

- **Pooled funds**
  - Typically offered in a closed-end structure
  - Closed-end fund terms range from 8-15 years
  - Typical fees: 1% management, 20% performance

Commodities

Commodities

- Ownership of a basic good or raw material, or a contract for delivery or sale of a basic good or raw material
- Broken down into hard and soft:
  - Hard (things you can't eat) includes energy (oil, natural gas), precious metals (gold), base metals (copper)
  - Soft (things you can eat) includes livestock (cattle), soft agriculture (coffee, cotton), grains (corn)

Commodity Examples

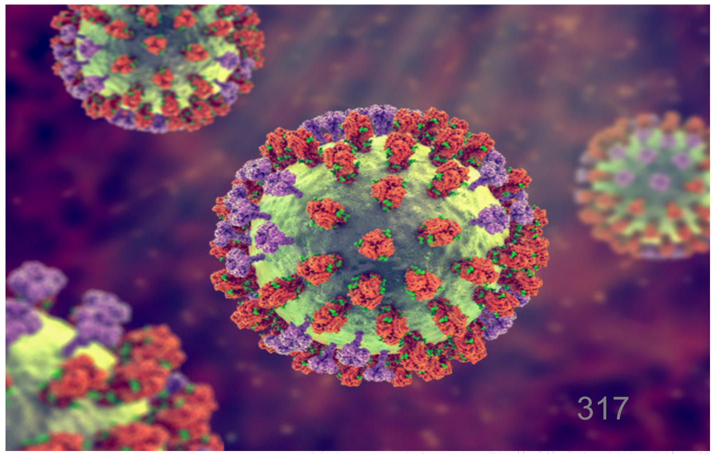
- Hard Commodities
  - Energy
    - Brent Oil
    - Crude Oil
    - Coal
    - Gas Oil
    - Heating Oil
    - Natural Gas
    - Unleaded
    - Gasoline
  - Metals
    - Industrial
      - Aluminum
      - Chrome
      - Copper
      - Lead
      - Mercury
      - Nickel
      - Selenium
      - Tin
      - Titanium
      - Zinc
    - Precious
      - Gold
      - Iridium
      - Palladium
      - Platinum
      - Osmium
      - Rhodium
      - Ruthenium
      - Silver

Commodity Examples

- Soft Commodities
  - Livestock
    - Feeder Cattle
    - Live Cattle
    - Live Hogs
    - Pork Bellies
  - Agriculture
    - Softs
      - Coffee
      - Cocoa
      - Cotton
      - Orange Juice
      - Rubber
      - Sugar
      - Silk
      - Timber
      - Wool
    - Grains & Seeds
      - Azuki Beans
      - Barley
      - Canola
      - Corn
      - Millet
      - Oats
      - Oilseeds
      - Red Wheat
      - Rice
      - Rye
      - Sorghum
      - Soybeans
      - Soybean Meal
      - Wheat

Unique Risks

- Ownership of any investment will involve risks, but commodities are potentially vulnerable to some unique risk profiles
  - Agricultural commodities may face outsized environmental risk (shifting climates), weather risk (flooding, droughts), and political risk (war affecting grain cultivation/shipments)
  - Livestock commodities may be vulnerable to disease risk (outbreak of an avian influenza decimating chicken stock)
  - Energy commodities are particularly vulnerable to geopolitical risk (OPEC alliance affecting global oil supply and pricing)



Potential Commodity Benefits

- Commodities are direct investment in resources that are used directly or become inputs for other products
- Commodity contracts can be highly liquid
- Returns vary tremendously based on time period and long-term cycles and can offer diversification benefits to more standard asset classes
- Commodities outperformed both equity and fixed income in a period of stagflation (1970’s)

Commodity Drawbacks and Risks

- **Drawbacks**
  - Volatility
  - Low Return
    - Projected long-term gains are lower relative to other asset classes
  - Suspect track-record of inflation protection

- **Risks**
  - Geopolitical
    - Wars, political arguments, and export cartels effect markets
  - Economic Sensitivity
  - Counterparty Risk
    - Commodities are often traded on a futures basis. If the seller defaults on their obligation to deliver the commodity, the buyer will lose their investment

How to Invest in Commodities

- **Public Equity and ETFs**
  - ETF iShares S&P GSCI Commodity (GSG) average daily volume 392,000 shares
  - Commodity related company stock such as Exxon Mobil (Oil, XOM), Rio Tinto (Metals, RIO), and Archer Daniels Midland (Agriculture, ADM)

- **Pooled funds**
  - Open and Closed Options Available
  - Portfolio of Commodity Related Stocks
  - Private Interests in Companies or Physical Commodity
  - Commodity Trading Advisor (CTA) - Futures, Forwards, Swaps
  - Fees are wide ranging from 0.5% bps to 1% plus performance fee of 15% over a hurdle

- **Direct Investment in Physical Commodity**