

THINGS REMEMBERED

Reflections On 35 Years Of The US Coal Commodity Cycle

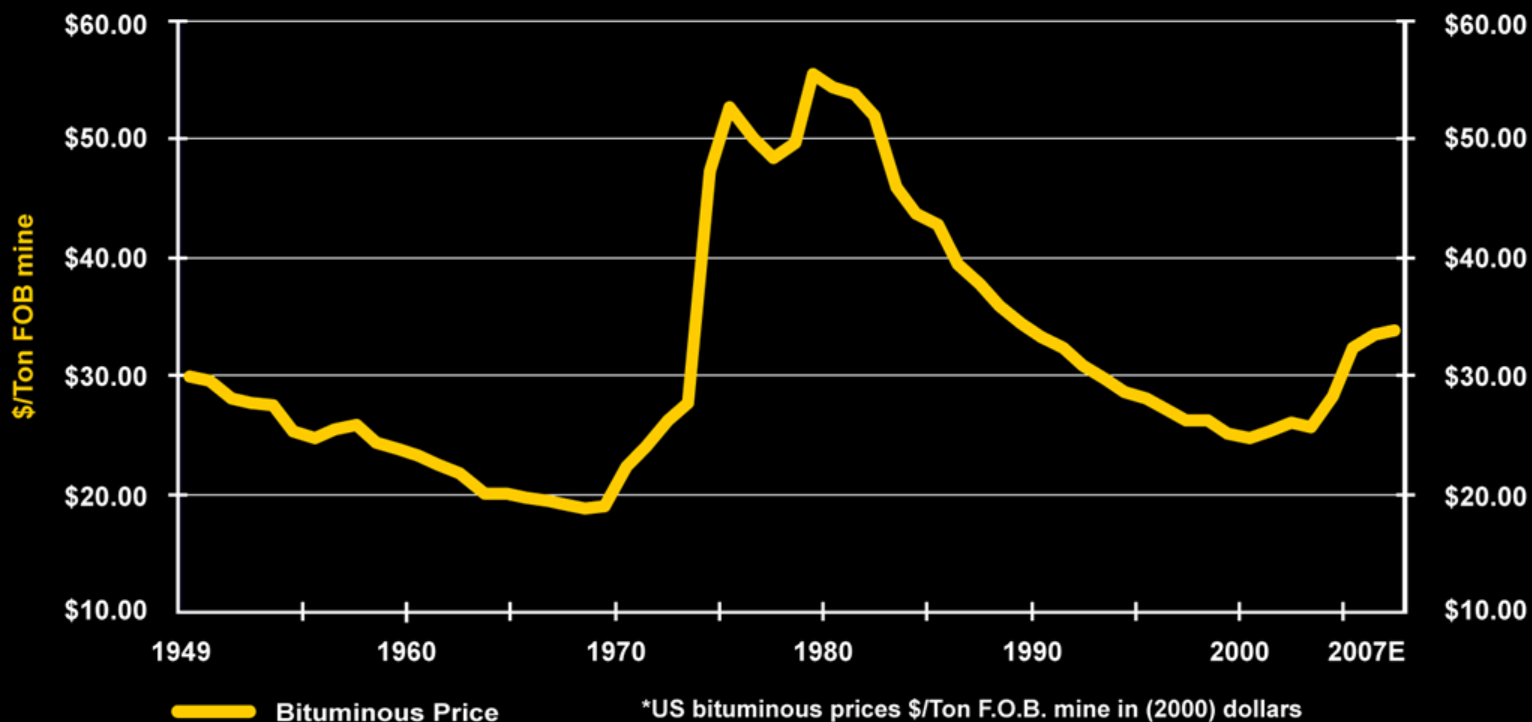
OVERVIEW

- I. THE COAL COMMODITY CYCLE
- II. THE COAL BUSINESS CYCLE
- III. 1973 – 75 EXAMPLE
- IV. IS IT DIFFERENT THIS TIME?
- V. CONCLUSION

I. THE COAL COMMODITY CYCLE

Bituminous Price 1949 - 2007

(SOURCE: ENERGY INFORMATION AGENCY)



LANDMARKS

1972 UNITED MINE WORKERS VS. BCOA CONTRACT STRIKE

1973 ARAB OIL EMBARGO

1975 MAJOR STRIKES

- UMW vs. BCOA CONTRACT STRIKE
- UMW RIGHT TO STRIKE – STRIKE
- SCHOOL BOOK STRIKE
- STUDDERED TIRE STRIKE
- GASOLINE RATIONING STRIKE

1979 RAILWAY WORKERS vs. NS RAILROAD

1981 UTILITIES BUILD 128 DAY STOCKPILE
UMW vs. PEABODY SELECTIVE STRIKE FIZZLES

20 YEARS OF MISERY 1981 - 2001

US STEEL COMPANIES RELEASE THERMAL PROPERTIES

MAJOR SURFACE MINING ADVANCES

MAJOR EXPANSION OF LONGWALL TECHNOLOGY

UNION-FREE TRANSITION OF EASTERN COAL

ILLINOIS BASIN DEVASTATED BY CLEAN AIR ACT 1990

POWDER RIVER BASIN BLACK DEATH

38% OF EASTERN COAL WASHES THROUGH BANKRUPTCY

UNDERGROUND PRODUCTIVITY PEAKS 1999

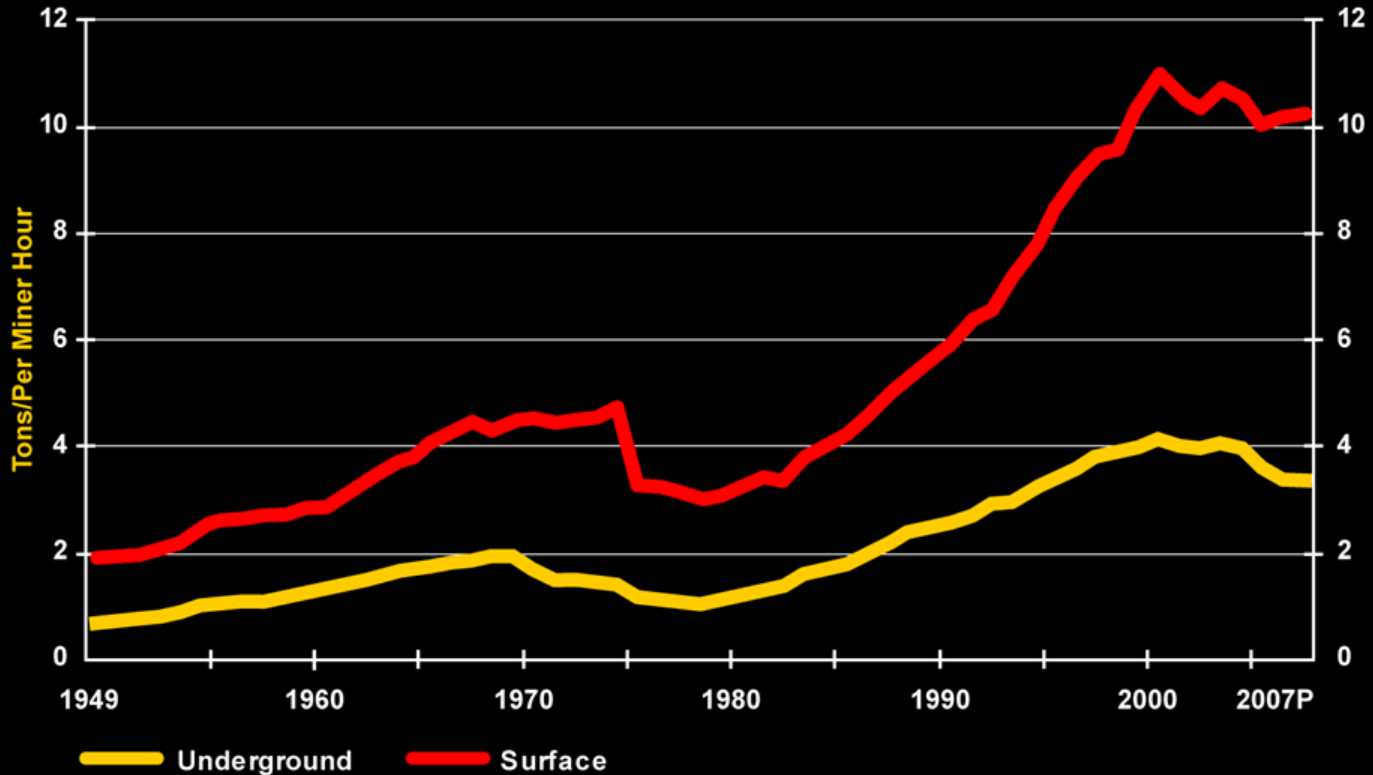
SURFACE MINE PRODUCTIVITY PEAKS 2000

US PRODUCTIVITY

SURFACE vs. UNDERGROUND

Coal Mining Productivity 1949 - 2007

(SOURCE: ENERGY INFORMATION AGENCY)



THE TURN

2001 - THE ODYSSEY

- SHOCK ABSORBERS REMOVED FROM THE SYSTEM
- ENEL BUYS LAST OF US AVAILABLE COAL
- MARTIN COUNTY COAL SLURRY IMPOUNDMENT FAILURE
- DEMAND
- SUPPLY
- AUSTRALIAN CONSTRAINTS
- 2003: CHINA STOPS EXPORTING COKE

2005-2008: GROUNDHOG DAY

WORLDWIDE DEMAND GROWTH

- CHINA
- INDIA
- EUROPE

DOLLAR VALUATION

OCEAN GOING FREIGHT RATES

AUSTRALIAN CONSTRAINTS

US SYSTEM AT FULL CAPACITY

PINNACLE AND BUCHANAN MINES OUTAGES

PRICE IS ONLY MECHANISM THAT CAN REACT SHORT TERM

LID CAME OFF GAS PRICE ALLOWED COAL PRICE TO ESCALATE

JULY 2008

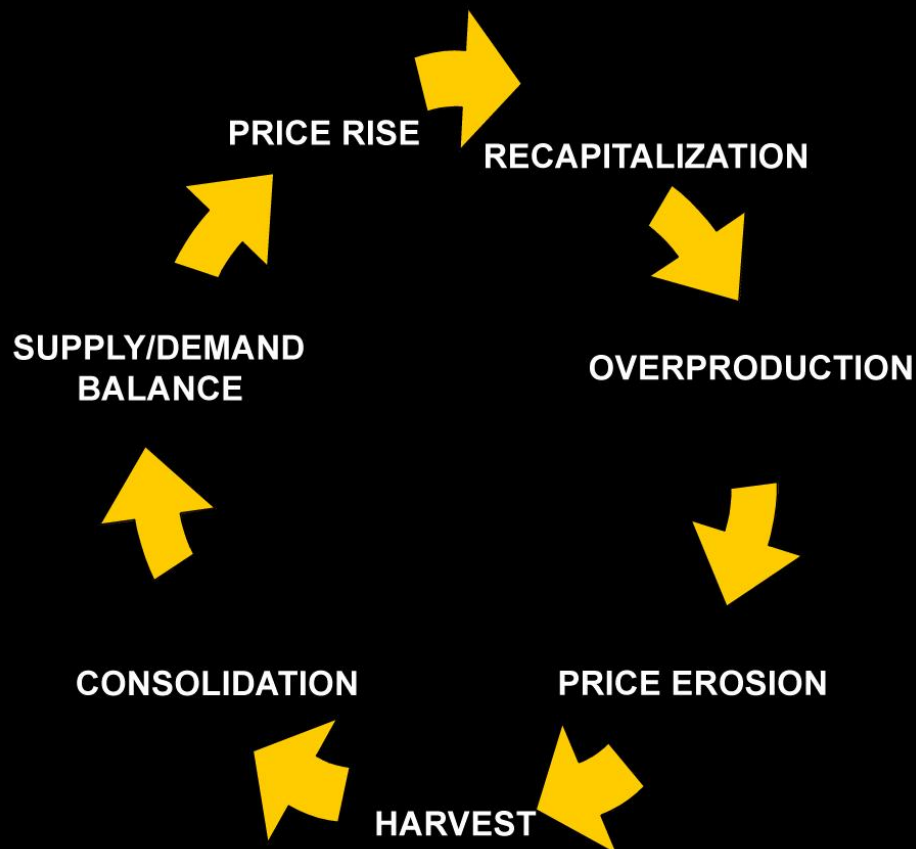
OIL PRICE COLLAPSE

METALS PRICE COLLAPSE

COAL PRICE PEAKS

WILD/CHAOTIC PRICE MOVEMENT LOWER

II. THE BUSINESS CYCLE



THE BUSINESS CYCLE

PRICE INCREASES

RECAPITALIZATION

OVER PRODUCTION

PRICE DECLINES

CONSOLIDATION

PRODUCTION RATIONALIZATION

DO OVER.....

III. 1973 – 1975 EXAMPLE

1973 – 1975 EXAMPLE

DRAMATIC PRICE RESPONSE

ATTRACT NEW CAPITAL – OIL COMPANIES

GROWTH OF LARGE HIGHLY CAPITALIZED MINES

20 YEARS PRODUCTION OVERSUPPLY

20 YEARS OF REAL PRICE DECLINE

INDUSTRY CONSOLIDATION

MINE CLOSURES

NUMEROUS BANKRUPTCIES

EQUILIBRIUM

IV. IS IT DIFFERENT THIS TIME?

IS IT DIFFERENT THIS TIME?

OBAMA ENERGY POLICY

OBAMA ENVIRONMENTAL POLICY

CONCENTRATION OF PRODUCTION

CAPP IS TIRED BASIN; CAN'T RESPOND

POWDER RIVER BASIN CONSTRAINTS

ILLINOIS BASIN: THE FUTURE

OECD UNCERTAINTY

re: CARBON EMISSIONS

SLOW PHASE IN ALLOWS DEVELOPMENT/INSTALLATION OF
EMISSION CONTROL TECHNOLOGY

INTERMEDIATE TERM REDUCTION IN DEMAND UNTIL
TECHNOLOGY IS INSTALLED

NON-OECD NATIONS ACCOUNT FOR THE MAJORITY OF WORLD'S COAL
BURN AND ARE UNRESTRICTED

DEAL FAILURES

CLEVELAND CLIFFS/ANR

UNITED COAL COMPANY

BLUESTONE COAL COMPANY

RHINO IPO

TRINITY IPO

TACTICAL MOVES

RIO TINTO: LAYOFFS-CAPEX DELAYS

PEABODY: HIRING FREEZE-CAPEX DELAYS: CUTBACKS

ARCH: SHUT DOWN DRAGLINE IN PRB

ANR CLOSES WHITETAIL MINE

MEE CANCELS EQUIPMENT AND PLANT MODIFICATIONS

ADDINGTON CLOSES BOOMER SURFACE MINE

CLIFFS RESOURCES CUTS PINNACLE MINE BACK

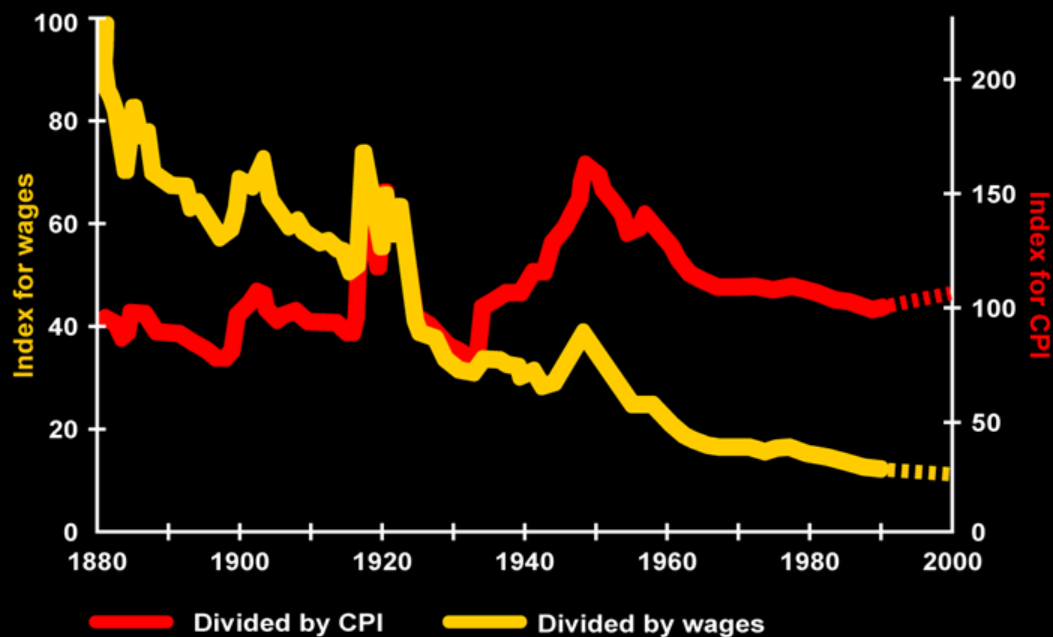
PATRIOT CLOSES JUPITER MINING

TECHNOLOGICAL ADVANCES

PRB CONVEYORS

ILLINOIS BASIN LONGWALLS

V. CONCLUSION



Source: "The Ultimate Resource 2" by Julian Lincoln Simon

Figure 11-2. The Price of Coal Relative to the Consumer Price Index and Wages in the United States

V. CONCLUSION

PRICE MOVEMENTS IN THE SHORT RUN CONTAIN VERY LITTLE INFORMATION OF IMPORTANCE FOR LONG TERM PLANNING.

THE FUNCTION OF PRICING WORKS BUT LAGS

MARKET HYSTERIA: DURING THE DELAY TILL INCREASING PRICES OR DECREASED DEMAND, ENTHUSIASM OF TRADERS PUSH PRICES (UP, DOWN) WELL BEYOND WHAT IS NEEDED TO TRIGGER HIGHER SUPPLY OR LOWER DEMAND.

SYSTEMS BEHAVE IN A NOISY AND CHAOTIC MANNER WHEN DEMAND APPROACHES SYSTEM CAPACITY. THEREFORE, WILD PRICE OSCILLATIONS OCCUR FROM SHORT-TERM CHANGES IN DEMAND.

THE OBVERSE: AS DEMAND IS SATISFIED THE LINE ON THE BUY SIDE DWINDLES. SELLERS PANIC AND OFFER LOWER PRICES. BUYERS WAIT FOR THE BEST PRICE. PRICE MOVES RAPIDLY UP AND DOWN BUT, SYSTEM REMAINS NEAR CAPACITY. SMALL CHANGES IN DEMAND RESULT IN OUTSIZED EFFECTS ON PRICE.

RULE: WITH SPARE CAPACITY RAZOR THIN WHEN LARGE GROUP OF BUYERS SHOW UP UNEXPECTEDLY, THEN THE ONLY SHORT-TERM RATIONING MECHANISM IS PRICE.

COSTS HAVE FALLEN FROM JULY 2008 HIGHS

CONCLUSION (continued)

PRICE WILL APPROXIMATE THE NEW AVERAGE COSTS OF PRODUCTION

CENTRAL APPALACHIA BASIN: \$58/TON

NORTHERN APPALACHIA BASIN: \$34/TON

POWDER RIVER BASIN: \$10.50/TON

ILLINOIS BASIN: \$30.50/TON

INTERMOUNTAIN BASIN: \$23/TON

SOUTHERN APPALACHIAN BASIN: \$69/TON

PLUS ON-GOING CAPITAL; SGA AND A REASONABLE RETURN

- 3RD QUARTER DATA
- SEC REPORTS OF PUBLICLY TRADED COMPANIES

THE ULTIMATE RESOURCE

THE ULTIMATE RESOURCE: JULIAN SIMON IN HIS LANDMARK WORK: THE ULTIMATE RESOURCE EXPLAINS THAT DESPITE COAL'S LEADERSHIP ROLE IN THE ENERGY MATRIX IN THE US AND ABROAD IT IS NOT THE ULTIMATE RESOURCE. THE ULTIMATE RESOURCE IS MAN'S INGENUITY IN A FREE AND OPEN SOCIETY, THE INTELLIGENCE AND CREATIVITY OF MAN ALLOWS HIM TO ADAPT, IMPROVISE AND OVERCOME. THUS IT HAS BEEN FOR THE COAL INDUSTRY AND THUS IT WILL BE.