Forging the National Economy

1790 – 1860
Rise of a Market Economy

• People on the move
  – Westward
  – Immigrants from Europe to cities

• New inventions
  – Cultivation of crops
  – Manufacturing of goods

• Workers labored under more demanding conditions

• Roads, steamboats, canals, railroads
The Westward Movement

• West was most “American” part of America
  – “Europe stretches to the Alleghenies; America lies beyond.” – Emerson

• Young population
  – 1/2 of Americans under 30
  – Restless, energetic, on the move

• Move westward
  – 1840 – demographic center of US crossed Alleghenies
The Westward Movement

• Very difficult existence for pioneers
  – Poorly fed, clothed
  – Housed in shanties that they could quickly build
  – Loneliness
    • People might spend weeks at a time cut off from other people, even their neighbors
    • Especially hit women hard; some had breakdowns and even went crazy
The Westward Movement

• Pioneer life
  – Entertainment for men
    • No-rules wrestling (biting off nose, eye gouging)
  – Ill-informed, superstitious
  – Individualistic
    • “Self-Reliance” by Emerson
    • Literature celebrated isolated figures against wilderness
      (James Fenimore Cooper; Herman Melville)
  – Community
    • Worked together (barn raising)
    • Called on government for internal improvements
Shaping the Western Landscape

• “ecological imperialism”
  – Aggressive and careless exploitation of natural resources in West

• Changes to land
  – Pioneers exhausted soil (especially with tobacco) and then moved on
  – In Kentucky, pastureland (Kentucky bluegrass) created by burning native cane
Shaping the Western Landscape

• The fur trade
  – “rendezvous system” used for beaver pelts
    • Traders brought manufactured goods from St. Louis to Rocky Mountains
    • Trappers brought pelts to traders in exchange for manufactured goods
    • Beaver virtually wiped out in 20 years
  – Buffalo (bison)
    • Hunted for pelts to be used as robes
    • Almost total annihilation of buffalo
Shaping the Western Landscape

• Americans also respected and loved nature
  – Spirit of nationalism from uniqueness of American wilderness
  – Eventually led to powerful conservation movement
  – 1832 – painter George Catlin saw Indians killing buffalo for tongues (to trade for whiskey) and called for preservation on national park
    • First park eventually created at Yellowstone in 1872
The March of the Millions

• Rapid population growth
  – Doubling every 25 years (continued from colonial times)
  – By 1860 – 33 states in US
The March of the Millions

• Urban growth
  – 1860 – 43 cities over 20,000 people (had been only 2 in 1790)
    • New York, Chicago, and New Orleans major cities
  – Problems with quick urbanization
    • Slums; lack of street lighting, police, clean water, garbage disposal; sewage; rates; loose animals (hogs) in streets
    • 1823 – Boston first to use sewer system
    • 1842 – New York used piped-in water
The March of the Millions

• New immigration
  – Before 1840s – immigration at about 60,000 per year
  – 1840s – immigration suddenly tripled
  – 1850s – immigration quadrupled (from pre-1840s)
  – 1840s – 1850s – 1.5 million Irish and 1.5 million Germans came to US
The March of the Millions

• Changes in Europe
  – Many people came to US because of population boom in Europe led to lack of land and opportunities there
  – Many moved around Europe before coming to US
  – About 1/2 of 60 million people who left Europe went to places other than US
The March of the Millions

• The appeal of the US
  – Freedom from aristocracy and class (caste) system
  – No state church
  – Opportunity for land
  – Lower taxes
  – No required service in military
  – Abundant food
The March of the Millions

• The journey
  – Steamships meant that journey was only 10 – 12 days (instead of 10 – 12 weeks)
  – Still crowded into unsanitary living quarters
    • More bearable because of shorter journey
Westward Movement of Center of Population, 1790-1990
The Emerald Isle Moves West

• 1845 – 1849 – Irish Potato Famine
  – A fungus attacked potatoes (primary food source for Irish)
  – 1/4 of Irish (2 million people) died of starvation
  – Led to huge numbers leaving for US in 1840s and 1850s
The Emerald Isle Moves West

• Irish in America
  – Too poor to move west or buy land and equipment needed in West
  – Crowded into Eastern cities (especially Boston and New York)
  – Crammed into slums; worked as kitchen help (women) or manual labor on railroads and canals (men)
The Emerald Isle Moves West

• Americans and Irish
  – Native whites did not like Irish
    • Depressed wages
      – “No Irish Need Apply” signs
    • Blamed for slums and alcoholism
  – Irish hated blacks
    • Irish hated blacks for same reasons as native whites hated blacks
    • Race riots between blacks and Irish
    • Irish did not support abolitionism
The Emerald Isle Moves West

• Irish forced to fend for themselves
  – Ancient Order of Hibernians
    • Irish organization that fought landlords in Ireland; evolved into benevolent society in US
  – Irish worked in low-skill jobs, but worked up
    • Children worked with parents to save money
    • Property ownership became very important
The Emerald Isle Moves West

• Irish and US politics
  – Came to control city political machines (like Tammany Hall in New York)
    • Patronage from machines led to Irish dominating some professions (like police departments)
  – Politicians worked for Irish vote
    • Attacked British to appeal to Irish ("twisting the British lion’s tail")
The German Forty-Eighters

• 1830 – 1860 – 1.5 million Germans came to US
  – Most were farmers who had to leave land because of crop failures
  – Some were political refugees who had to leave Germany after failure of democratic revolutions of 1848
The German Forty-Eighters

• Germans moved to Middle West (especially Wisconsin)
  – Had more money than Irish (who settled in big cities in East)
  – Not as politically strong as Irish because they were more spread out
The German Forty-Eighters

• Impact of Germans in US
  – Conestoga wagon, Kentucky rifle, Christmas tree
  – Isolationist feelings because they had fled from militaristic and warlike Europe
  – Better educated; supported public schools (Kindergarten)
  – Stimulated art and music
  – Relentless enemies of slavery
The German Forty-Eighters

• Germans and Americans
  – Settled together in “colonies”, separate from other Americans
  – Drank bier (beer) on Sunday to celebrate
    • Irish and German drinking led to stronger temperance movement in US
Flare-ups of Antiforeignism

• Nativists feared Irish and Germans would overwhelm whites already there
  – Taking jobs
  – Outbreeding
  – Outvoting
  – Irish Roman Catholicism feared
Flare-ups of Antiforeignism

• Roman Catholicism
  – Most Irish and some Germans were Catholics
  – Catholics established their own schools to prevent Protestant indoctrination
  – Became largest church in US by 1850 (many more Protestants, but divided by sects)
  – Nativists (unrealistically) feared establishment of Catholic church (making it the official US church)
Flare-ups of Antiforeignism

• Nativist political action
  – 1849 – Order of the Star-Spangled Banner established
    • Evolved into powerful American (Know-Nothing) party
      – “Know-Nothing” came from the party’s secrecy – members were supposed to claim they knew nothing when questioned
    – Called for restrictions on immigration and naturalization and laws for deportation of poor aliens
    – Wrote descriptive fiction about supposed sins hidden in convents
      • Nuns sexually exploited; babies from these sins killed and buried in churches
Flare-ups of Antiforeignism

• Nativist mass violence
  – Infrequent and generally in larger cities
  – 1834 – Catholic convent burned in Boston
  – 1844 – Irish Catholics fought back against native mob in Philadelphia
    • Violence lasted for several days
    • 13 killed; over 50 wounded; 2 Catholic churches burned
Flare-ups of Antiforeignism

• As US became the most ethnically diverse country in history, why were incidents of violence not more frequent?
  – Strength of US economy meant immigrants could do well without jeopardizing those already here
  – Immigrants helped US economy expand even more
• US might have missed out on industrialism without large numbers of immigrants
Creeping Mechanization

• 1750 – Industrial Revolution began in Britain
  – Inventors used steam machines to mass produce textiles (cloth); led to modern factory system
  – Accompanied by transformations in agricultural production, transportation, and communication
Creeping Mechanization

• In about 1 generation, the factory system spread from Britain to the European Continent and the US
  – US did not industrialize until mid 1800s
Creeping Mechanization

• Why the US was relatively slow to adopt industrialization
  – Land was cheap
    • Workers wanted to work outdoors instead of in factories
    • Labor scarce until immigrants arrived in 1840s
  – Money for capital investment scarce
  – Raw materials undiscovered or undeveloped
  – US-produced goods of lesser quality and higher price than British goods
  – British had monopoly on textile production (with secrets protected by law)
Whitney Ends the Fiber Famine

• Samuel Slater
  – “Father of the Factory System” in America
  – Skilled British mechanic who was attracted to US by bonuses paid to British workers familiar with textile machinery
  – Memorized plans for British textile machinery and emigrated to US
  – 1791 – with financial backing of Moses Brown (Quaker capitalist), built first American machine for spinning thread
Whitney Ends the Fiber Famine

• Need for cotton fiber created
  – Expensive and very labor intensive to separate cotton from seeds
Whitney Ends the Fiber Famine

• Eli Whitney
  – Born in Massachusetts; traveled to Georgia as private tutor
  – 1793 – in 10 days, invented cotton gin (engine)
    • Separated seed from short-staple cotton
    • 50 times more fast than doing it by hand
Whitney Ends the Fiber Famine

• Effect of the cotton gin
  – Raising of cotton became highly profitable, tying South to cotton
  – Slavery had been dying out; now cotton revived need for slaves to raise cotton and run cotton gin
The Cotton Gin
Whitney Ends the Fiber Famine

- North and South benefit from cotton gin
  - South expanded cotton-growing areas
    - Pushed off coastal areas (tidewater), across piedmont (between coastal areas and Appalachians) to inland Alabama and Mississippi
  - North (and Britain) bought South’s cotton for use in factories
    - At first in New England; expanded to New York, New Jersey, Pennsylvania
    - South relied on cotton and slaves; very little manufacturing there
Slaves Operating a Cotton Gin
Whitney Ends the Fiber Famine

• Why New England developed as industrial center first
  – Farming difficult in rocky soil
  – Dense population (for labor and markets)
  – Seaports brought in capital and raw materials and export of finish products
  – Rapid rivers (like Merrimack in Massachusetts) provided water power for early factories
Marvels in Manufacturing

• Few US factories until 1807
  – Embargo, nonintercourse, War of 1812 led to citizens looking for substitutes for British goods
  • Hurt New England shipping; capital usually invested in shipping and sailors normally working on ships diverted to factories
Marvels in Manufacturing

• 1815 – Treaty of Ghent ended War of 1812
  – British dumped excess inventory in America
  – Many US factories forced to close
• Tariff of 1816 passed
  – Mildly protective tariff to help US manufacturers
Marvels in Manufacturing

• Interchangeable parts
  – Before, each part of gun hand-tooled; if a part broke, it would have to be custom-made
  – Eli Whitney came up with idea of having a machine make each part
    • All parts would be exactly the same
  – 1798 – traveled to Washington to convince US officials
    • With 10 new muskets in a box, took them all apart, scrambled the parts, and reassembled them
Interchangeable Parts
Marvels in Manufacturing

• Effect of interchangeable parts
  – Widely adopted by 1850
  – Helped industrial North defeat agricultural South in Civil War
Marvels in Manufacturing

• 1846 – sewing machine invented by Elias Howe
  – Perfected by Isaac Singer
  – Boosted ready-made clothing industry
  – Moved seamstresses (women sewers) from home-production to factories
A Singer Sewing Machine
Marvels in Manufacturing

• New inventions stimulated new inventions
  – 1800 – 306 patents issued
  – 1860 – 28,000 patents issued
Marvels in Manufacturing

- Changes in form and legal status of business organizations
  - Limited liability – allowed shareholder to only be liable for his share of stock in case company went bankrupt
  - Investment capital companies created to allow people to invest in businesses
  - Laws of “free incorporation”
    - First passed in New York in 1848
    - Businessmen could create corporations without applying for individual charters from legislature
Marvels in Manufacturing

• The telegraph
  – 1844 – invented by Samuel F. B. Morse
  – Wires strung from Washington, DC to Baltimore (about 40 miles)
  – Morse tapped out “What hath God wrought?”
  – By 1860 – wired stretched across US
    • Revolutionized news, diplomacy, finance
Samuel Morse’s Telegraph
Workers and “Wage Slaves”

• Before – work had been performed in homes or small shops
  – Master and apprentice worked closely in friendly relationship
• Industrial Revolution ended the relationship for impersonal owner/worker system
Workers and “Wage Slaves”

• Benefits and costs of industrialism
  – Owners grew rich off factory system
  – Workers endured long hours, low wages, small meals
    • Unsanitary buildings that were poorly ventilated, lighted, and heated
    • Forbidden by law to form unions (seen as criminal conspiracy)
Factory Labor
Workers and “Wage Slaves”

• Child labor
  – Significant number of workers were children under 10
  – Victims were mentally and physically stunted, emotionally starved
  – Beaten in “whipping rooms” as punishment
Child Labor in a Factory
Workers and “Wage Slaves”

- 1820s – 1830s – conditions for adult workers improved
  - Workers granted the vote
    - Joined with Democratic party of Andrew Jackson
    - Worked for 10-hour day, higher wages, better working conditions, public schools, and end to imprisonment for debt
Workers and “Wage Slaves”

• Employers fought 10-hour day
  – Would lessen production, increase costs, and cause lazy workers to fall into sin
• 1840 – Van Buren authorized 10-hour day for all federal workers
  – States eventually copied federal standard for working people
Workers and “Wage Slaves”

- Strikes and unions
  - Workers stopped working to protest wages and conditions
  - Few strikes before 1830s because they were seen as illegal conspiracies
  - 1830s – 1840s – dozens of strikes occurred
    - Lost more strikes than they won
    - Employers could import strikebreakers (“scabs”) in place of striking workers
    - Workers opposed immigration because they were used as strikebreakers
  - Unions and strikes gained strength during 1830s, but weakened in 1837 during depression
  - 1842 – Commonwealth v. Hunt
    - Supreme Court ruled unions not illegal conspiracies
  - Unions had another century of rough work to complete before full recognition and rights established
Women and the Economy

• Before industrialism, women worked at home making clothing and food products needed for home
• Factories displaced homemade products, but also offered employment to women
• Factory jobs gave women greater economic independence and means to buy manufactured goods
Women and the Economy

• Factory girls
  – Worked 6 days a week, 12-13 hours per day
  – New England girls from farms
  – Supervised on and off the job; escorted to church; forbidden to form unions
Women and the Economy

• Jobs for women scarce
  – A few factory jobs, nursing, domestic service, teaching
  – Teaching became “feminized” as men left the field
  – 20% of women had been employed before marriage
Women and the Economy

• “cult of domesticity”
  – Working women were single; upon marriage they left their jobs to become wives and mothers
  – “cult” was widespread cultural belief system that glorified the customary functions of the homemaker
  – Women’s increased influence led to changes in the family
Women and the Economy

• Marriage for love instead of arrangement by parents
  – Parents kept power of veto
  – Marriages became closer
Women and the Economy

• Families grew smaller
  – “fertility rate” (number of births among women, 14-45) dropped sharply among white women
  – Birth control was primitive, but something was done to prevent childbirth
  – Women probably led in the decision to have fewer children (“domestic feminism”)
Women and the Economy

• Child-centered families
  – Fewer children meant parents could give more attention to them
  – Children were not spoiled
  – Other forms of punishment besides beatings used to shape children’s behavior
  – Raised to be independent individuals, not submissively obedient (raised to be good US citizens)
The “Cult of Domesticity”
Western Farmers Reap a Revolution in the Fields

• Trans-Allegheny region (between Appalachians and Mississippi River) became US’s breadbasket
  – Especially Ohio-Indiana-Illinois area
  – Grew corn to be fed to hogs or distilled into liquor (both easier to transport east than corn itself)
  – Most produce floated down Ohio-Mississippi Rivers to South
Western Farmers Reap a Revolution in the Fields

• Farmers worked to expand acreage
  – 1837 – John Deere invented steel plow to break tough soil in west and was light enough to be pulled by horses instead of oxen
  – 1830s – Cyrus McCormick invented the mechanical mower-reaper
  • 1 man could do work of 5
John Deere Plow
The McCormick Reaper in Use
Western Farmers Reap a Revolution in the Fields

• Because of new inventions, farmers could profitably expand acreage
  – Subsistence farming replaced by production for market
  – Cash-crop agriculture dominated Trans-Allegheny West
  – Farmers went into debt buying more land and new equipment
  – Farmers produced more than South could consume
    • East-West transportation system needed to sell surplus farm goods
Highways and Steamboats

• Late 1700s – primitive transportation
  – Dangerous travel over water (along coast or river)
  – Dirt roads rough, muddy – making travel slow and dangerous
Highways and Steamboats

• 1790s – Lancaster Turnpike
  – Wide, hard road between Philadelphia and Lancaster (62 miles)
  – Toll road (piques blocking road turned when toll was paid = turnpike)

• Impact of Lancaster Turnpike
  – Highly successful (15% return to investors)
  – Increased trade to Philadelphia
  – Led to many more turnpikes being constructed and increased movement west
Highways and Steamboats

• Obstacles to road building
  – States’ rights proponents who opposed federal aid to local road projects
  – Eastern states opposed emigration from their states to West
Highways and Steamboats

• Cumberland (National) Road
  – Began in 1811
  – Stretched from western Maryland to Illinois (591 miles)
  – Slowed by War of 1812 and states’ righters, but finally finished in 1852
Cumberland (National) Road and Main Connections
Highways and Steamboats

- Steamboats
  - Robert Fulton put steam engine in Clermont
  - 1807 – Clermont sailed 150 miles from New York City to Albany in 32 hours
  - Many steamboats built after Fulton’s success
Robert Fulton’s First Steamboat
Highways and Steamboats

• Effects of the steamboats
  – Steamboats could sail upstream (against current)
    • Before keelboats had been pushed up the Mississippi at under 1 mile per hour (and was very expensive)
    • Steamboats could sail upstream at 10 miles per hour
  – Steamboat accidents (boiler explosions) claimed many lives
  – Helped settle West and South (with many rivers)
    • Could ship out produce and bring in manufactured goods
    • Settlements made around rivers
“Clinton’s Big Ditch” in New York

• Erie Canal
  – Part of canal craze in early 1800s
  – Connected Hudson River and Great Lakes
  – 1817 – 1825 – built by New York and governor Dewitt Clinton
Erie Canal and Main Branches

1. Genesee Valley Canal
2. Oswego Canal
3. Black River Canal
4. Chenango Canal
5. Champlain Canal
“Clinton’s Big Ditch” in New York

• Effects of the Erie Canal
  – Cheap shipping of western produce to East ($100 per ton to $5 per ton)
  – Value of land increased along canal
  – New cities along canal and Great Lakes built
  – Industry in New York increased (shipping west)
  – Farming in Old Northwest (Ohio, Michigan, Indiana, Illinois) increased (shipping east)
  – Northeastern farmers put out of business
    • Moved, worked in industry, grew different products like fruit
The Iron Horse

• Railroad
  – Greatest cause of continental economy
    (not confined to regions)
  – Advantages
    • Fast and reliable
    • Cheaper than canals to build
    • Could go almost anywhere
The Iron Horse

• Opposition to railroads
  – Canal backers tried to get laws passed against railroads (because of competition)
  – Sparks could ignite haystacks and fields
  – Accidents led to many deaths
The Iron Horse

• Early obstacles railroads had to overcome (and eventually were)
  – Weak brakes
  – Inaccurate schedules
  – Differences in gauge (distance between rails) made railroad lines incompatible (so passengers had to change trains)
The Iron Horse

• 1828 – first railroad in US
• 1860 – 30,000 miles of track
  – 3/4 in industrial North
The Railroad Revolution
Cables, Clippers, and Pony Riders

• Transatlantic communication
  – 1858 – Cyrus Field laid cable across Atlantic (Newfoundland to Ireland)
  – 1866 – 2\textsuperscript{nd} cable laid after 1\textsuperscript{st} one went dead
Cables, Clippers, and Pony Riders

• 1840s – 1850s – important American contributions to shipping
  – Clipper ships produced
    • Long, sleek, fast-sailing ships that could even outrun a steamer
    • Carried high-value cargo at fast speeds
  – 1860s – British steamers beat clippers for control of oceanic trade
    • Slower, but more reliable and could carry more
Cables, Clippers, and Pony Riders

• Western communication
  – 1850s – stagecoach allowed travel from Missouri to California
  – 1860 – Pony Express established
    • Speedy mail delivery from St. Joseph, Missouri to Sacramento, California
    • Stations every 10 miles
    • Trip made in 10 days
    • Lost money and closed after 18 months
  – 1861 – Morse Code (invented by Samuel Morse)
    • Transmitted over telegraph lines
    • Replaced Pony Express for delivering messages from East to California almost instantly
Main Routes West Before the Civil War

- Oregon Trail
- California Trail
- Pony Express overland mail
- Mormon Trail
- Santa Fe Trail
- Spanish Trail

PACIFIC OCEAN

San Francisco
Sacramento (Sutter’s Fort)
Portland
Salt Lake City
Fort Laramie
South Pass
Platte R.
Snake R.
Snake R.

Santa Fe Trail
Cutoff
Independence
St. Joseph
Omaha
Fort Kearny
St. Louis
Gulf of Mexico
Arkansas R.
Mississippi R.
Missouri R.
Arkansas R.
Mississippi R.

San Diego
Los Angeles
Colorado R.
Snake R.
Great Salt Lake
Snake R.
The Transport Web Binds the Union

- “transportation revolution” tied the US together
- 1790 – 1830 – Western produce went to South (down Mississippi)
  - Steamboat helped finished goods travel up Mississippi (from South to West)
The Transport Web Binds the Union

- 1830 – 1860 – more important ties of East to West
  - Carried out by canals and railroads
  - Trade diverted from South (down Mississippi) to East (railroads, boats, canal barges)
  - Made New York City chief port of US
The Transport Web Binds the Union

- National division of labor
  - Each section specialized in certain economic activity
  - South grew cotton for New England and Britain
  - West raised grain and livestock for export to East (and Europe)
  - East made machines and textiles for West and South
The Transport Web Binds the Union

• Economic pattern and Civil War
  – South believed upper Mississippi valley states would have to secede or be economically destroyed
  – South did not see the importance of East-West ties along railroads and canals that bound them together
The Market Revolution

- Changes in economy and business raised new questions
  - How tightly should patents protect inventions
  - Should the government regulate monopolies
  - Who should own the technologies and networks that drove the US economy
The Market Revolution

• Chief Justice John Marshall’s court strongly protected contract rights
  – Required state governments to grant irrevocable (unchangeable) charters
  – Monopolies created as a result
  – Died in 1835
The Market Revolution

• New court under Chief Justice Robert Taney changed Marshall’s defense of monopolies
  – Owners of Boston’s Charles River Bridge sued owners of new Warren Bridge for violating their original contract
    • Taney sided with Warren owners; “the rights of the community” outweighed corporate rights or contracts
  – Led to greater competition
The Market Revolution

• “limited liability”
  – Passed in 1830s
  – Allowed investors to only be liable for the amount they had invested (the stock price) if the company was sued or went bankrupt
  – Led to greater economic investment by more people
The Market Revolution

• Changes in households because of the market economy
  – Store-bought goods replaced homemade goods
  – Women’s work (making homemade things for household) became unnecessary
  – Home transformed from place where families worked together to refuge from world and a special area for women as its guardians
The Market Revolution

• Increased gap between rich and poor
  – Some families amassed huge fortunes
  – Cities had greatest inequality
    • Unskilled, wandering workers ("drifters") formed underclass in cities
  – Few instances of large social mobility ("rags to riches")
  – Still more opportunity and wealth (even for poor) than in Europe