Preliminary AEO2019 Macroeconomic Results

For
Macroeconomic Working Group
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By
Macroeconomic Analysis Team
Key preliminary results

• Preliminary AEO2019 real GDP grows an average of 1.9% per year from 2018-50, down 0.1 percentage points from AEO2018

• Preliminary AEO2019 manufacturing output grows 2.0% per year on average from 2018-50, up 0.2 percentage points; nonmanufacturing increases by an average of 1.3% per year, unchanged from AEO2018

• Preliminary AEO2019 employment growth is concentrated in services and construction
Summary of the Macroeconomic Activity Module (MAM) in the National Energy Modeling System (NEMS)

- Macroeconomic submodule runs the New Scenario using new Energy Inputs from NEMS
- Industrial submodule runs the New Scenario of values of shipments by industry sectors
- Employment submodule runs the New Scenario of employment by sector
- Regional submodule
- Commercial floorspace submodule

MAM variables used as inputs in NEMS

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Key changes from last AEO

• Updates to the U.S. macro, industrial output and employment by industry models
New Census projections point to slower population growth and less immigration—offsetting any positive impacts from the new tax cuts on potential GDP by 2027

Source: AEO2019 Preliminary run
The share of the population aged 16 to 65 is projected to fall to 60% in 2050.

Source: AEO2019 Preliminary run
Growth in GDP and most of its components is slower in the preliminary AEO2019 projection than history

average annual percent growth

- Imports: Projected 3.0% growth, Previous: 5.1%
- Exports: Projected 3.6% growth, Previous: 4.8%
- Fixed Residential Investment: Projected 1.2% growth, Previous: 1.0%
- Fixed Nonresidential Investment: Projected 2.5% growth, Previous: 3.8%
- Consumption: Projected 2.0% growth, Previous: 2.8%
- Real GDP: Projected 1.9% growth, Previous: 2.4%

Source: AEO2019 Preliminary run
The preliminary AEO2019 projection for GDP and most of its components is slower than recent projections.

Source: AEO2019 Preliminary run
Inflation remains moderate throughout the projection and bond yields gradually rise from historic lows.

Source: AEO2019 Preliminary run
Consumption’s importance in the demand mix fades as exports becomes more important

change in GDP share between 2018 and 2050 percentage points

Source: AEO2019 Preliminary run

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Preliminary AEO2019 real GDP growth is similar to other forecasts/projections

annual average growth in real GDP

<table>
<thead>
<tr>
<th>Projection</th>
<th>2018-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEO 2019</td>
<td>1.9</td>
</tr>
<tr>
<td>AEO 2018</td>
<td>2.0</td>
</tr>
<tr>
<td>IHSM (May 2018)</td>
<td>1.9</td>
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<tr>
<td>CBO (June 2018)</td>
<td>1.9</td>
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<tr>
<td>OASDI (2018)</td>
<td>2.2</td>
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<tr>
<td>Oxford (May 2018)</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Sources: as listed
Services are the largest sector, metal-based durables grow the fastest

Source: AEO2019 Preliminary run

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Overall industrial sector gross output is higher relative to last year in the later years of the projection on higher exports of industrial supplies.

Source: IHS Markit, AEO2018, AEO2019 Preliminary run; bulk chemicals includes NAICS 3251-3
Industrial sector shipments grow fastest in nonenergy-intensive manufacturing, primarily due to share loss in energy-intensives

Source: AEO2019 Preliminary run
Bulk chemicals output is lower than last year but awaiting updates, major changes expected

Source: IHS Markit, AEO2018, AEO2019 Preliminary run; bulk chemicals includes NAICS 3251-3
Primary metals output is higher after 2040 but some revision possible with other updates

Source: IHS Markit, AEO2018, AEO2019 Preliminary run; primary metals includes all NAICS 331

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Metal-based durables output relatively insensitive to price so less change expected

Source: IHS Markit, AEO2018, AEO2019 Preliminary run; metal-based durables includes NAICS 332-6
Employment increases most in services and construction

Source: AEO Preliminary run; MBD = metal-based durables, EI = energy-intensive, man. = manufacturing
Thank you

Annual Energy Outlook | www.eia.gov/forecasts/aeo

Short-Term Energy Outlook | www.eia.gov/forecasts/steo

International Energy Outlook | www.eia.gov/forecasts/ieo

Today In Energy | www.eia.gov/todayinenergy

Monthly Energy Review | www.eia.gov/totalenergy/data/monthly

State Energy Portal | www.eia.gov/state