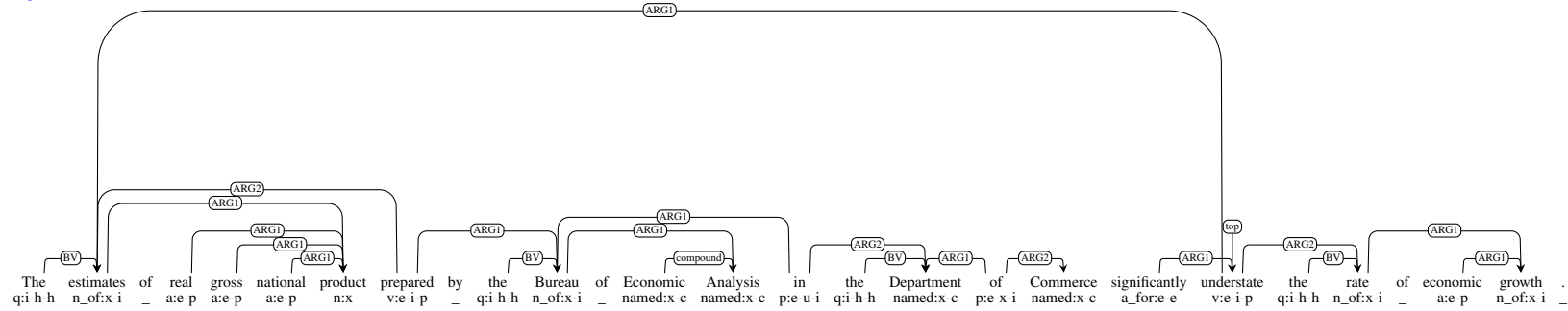
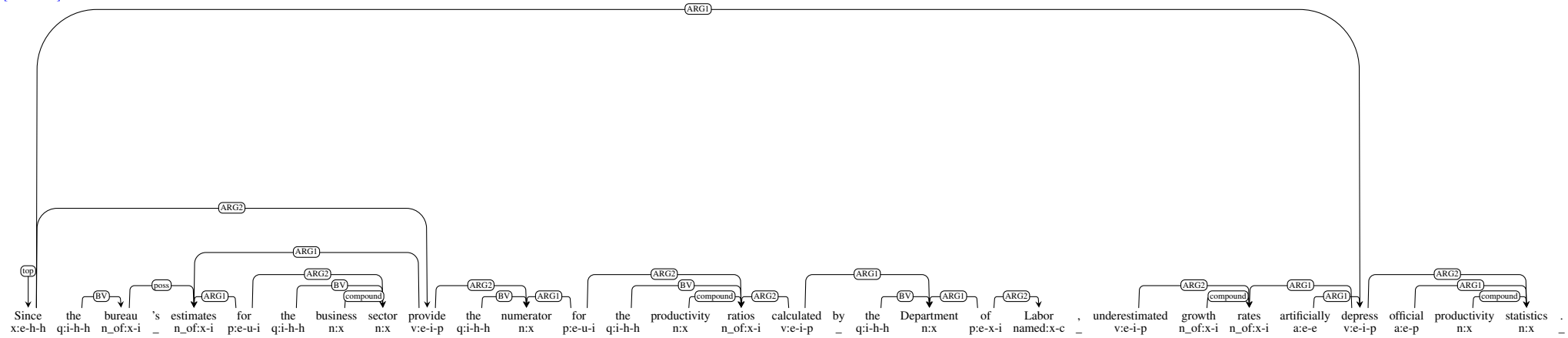


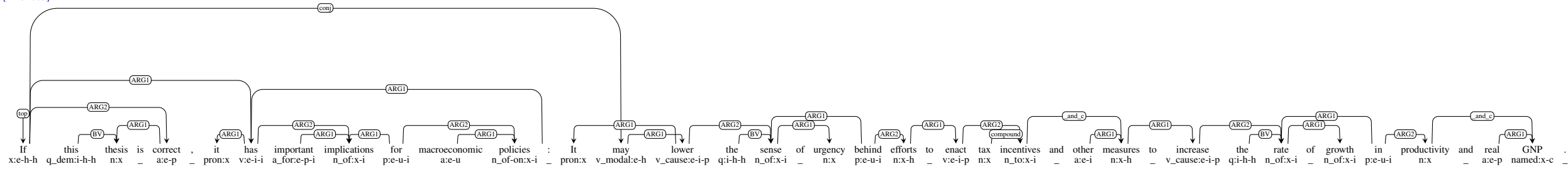
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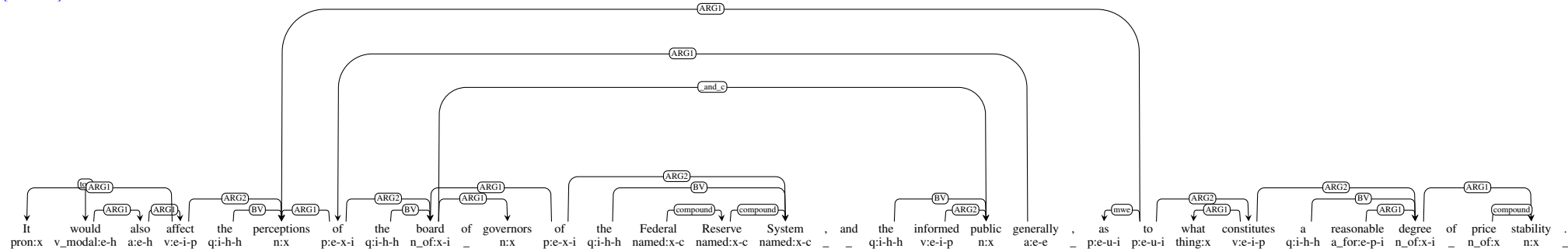
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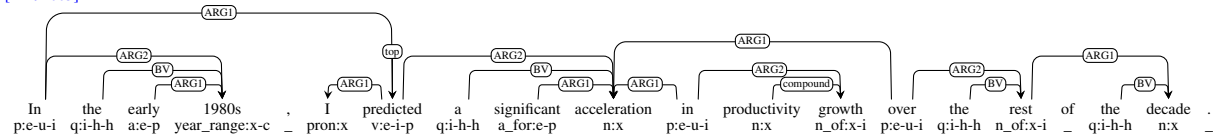
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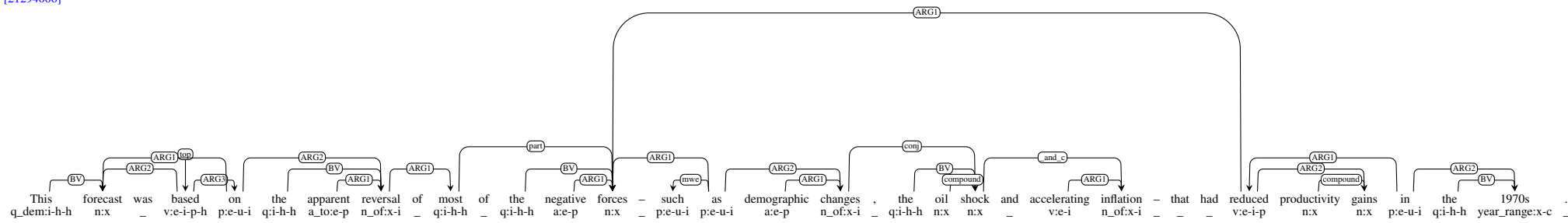
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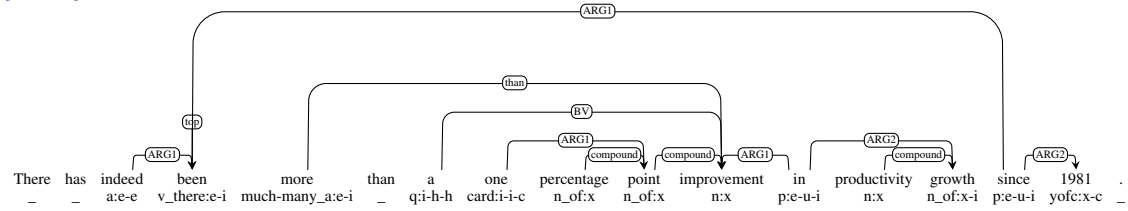
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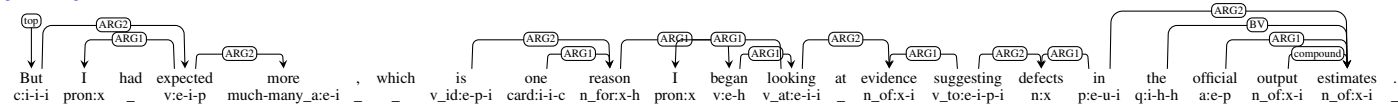
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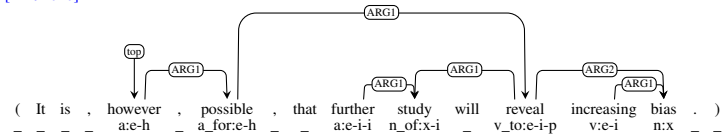
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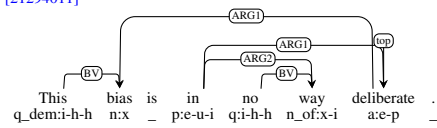
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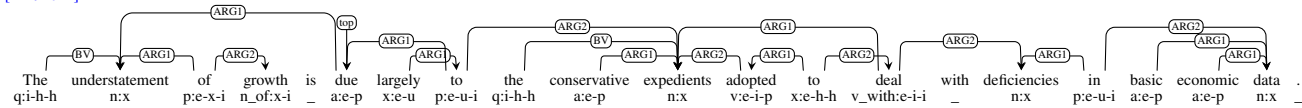
[21294010]



[21294011]



[21294012]



[21294014]

This means that no allowance is made for possible increases in output per unit of labor .
xx v_toe-i-h-i _ q-i-h-h nx _ v-e-i-pu p-e-u-i a_force-p-i nx p-e-u-i n_of-x-i p-e-u-i n_of-x-i _ nx _

[21294015]

In an unrelated program in which the Labor Department does estimate output per employee for more than two-thirds of federal civilian employees , it found an average annual rate of productivity improvement of 1.7 % during the 1980s .
p-e-u-i q-i-h-h a_toe-p-i n_of-x-i p-e-u-i _ q-i-h-h named-x-c nx _ v_toe-i-p p-e-u-i n_of-x-i p-e-u-i n_of-x-i p-e-u-i much-many_a-e-i _ n_of-x p-e-x-i a-e-p a-e-p n_of-x-i _ pronx v-e-i-p q-i-h-h a-e-p a-e-p n_of-x-i _ nx of productivity improvement of 1.7 % during the 1980s _

[21294017]

The federal productivity estimators use labor input , rather than output , data for their calculations of half of private financial and service industries as well .
q-i-h-h a-e-p nx nx v_toe-i-p nx v_toe-i-p _ _ _ v_toe-i-p nx p-e-u-i q-i-h-h n_of-x-i put_of-i-i _ a-e-p a-e-p _ nx nx a-e-h a-e-h _

[21294018]

Independent estimates of output in those industries , including one by the Department of Labor for banking , suggests that productivity in finance and services appears to have risen by an average of at least 1.5 % a year between 1948 and 1988 .
a_of-e-p-i n_of-x-i _ n_of-x-i p-e-u-i q_demi-h-h nx _ v-toe-i-p card-i-i-c p-e-u-i q-i-h-h named-x-c p-e-x-i named-x-c p-e-u-i nx _ v_toe-i-h-i _ nx p-e-u-i nx _ nx v_toe-i-h _ _ v-e-i p-e-u-i q-i-h-h n_of-x-i _ x-e-u x-e-u card-i-i-c n_of-x p-e-u-i nx p-e-u-i yofc-x-c _ yofc-x-c _

[21294019]

Because finance and services contribute 10 % to final business product , missing these productivity improvements depresses the overall growth rate by 0.15 % a year .
x-e-h-h nx _ nx v_toe-i-p-i card-i-i-c n_of-x _ a-e-p nx nx _ v-toe-i-p q_demi-h-h nx nx v-toe-i-p q-i-h-h a-e-i n_of-x-i n_of-x-i p-e-u-i card-i-i-c n_of-x p-e-u-i nx _

[21294020]

The second source of error in growth statistics is the use of inappropriate deflators to adjust for price changes .
q-i-h-h ord-i-i-c n_of-x-i _ nx p-e-u-i n_of-x-i nx v_toe-i-p q-i-h-h n_of-x-i _ a_force-p nx _ v_toe-i-p p-e-u-i n_of-x n_of-x-i _

[21294021]

I estimate that these mismeasurements as detailed by Martin N. Baily and Robert J. Gordon add a further 0.12 percentage point to the downward bias in the growth rate of real business product .
pronx v_toe-i-h _ q_demi-h-h nx v-toe-i-p _ named-x-c named-x-c named-x-c _ named-x-c named-x-c named-x-c v_toe-i-p-i q-i-h-h a-e-i i card-i-i-c n_of-x n_of-x _ q-i-h-h a-e-p nx p-e-u-i q-i-h-h n_of-x-i n_of-x-i _ a-e-p nx nx _

[21294022]

Finally , the official estimates understate growth because they make inadequate allowance for improvements in quality of goods and services .
a-e-h _ q-i-h-h a-e-p n_of-x-i v-toe-i-p nx n_of-x-i x-e-h-h pronx v-toe-i-pu nx p-e-u-i nx p-e-u-i nx p-e-u-i nx p-e-u-i nx _

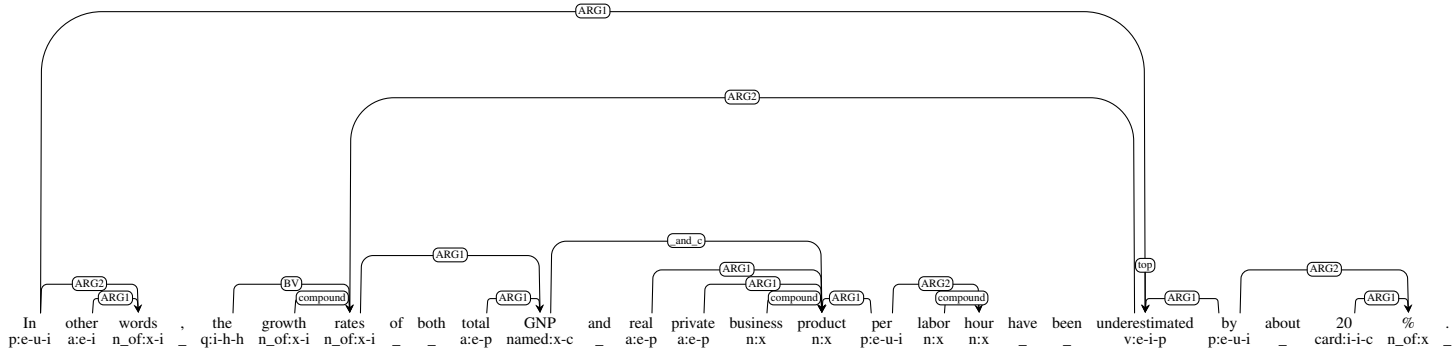
[21294023]

In 1985 , a new price index for computers adjusted for changes in performance characteristics was introduced , and that resulted in a significantly larger increase in real outlays for durable goods than the earlier estimates had showed .
p-e-u-i yofc-x-c _ q-i-h-h a-e-p n_of-x nx p-e-u-i nx v_toe-i-p p-e-u-i n_of-x-i p-e-u-i nx n_of-x-i n_of-x-i _ v_toe-i-p _ _ x-x v_in-e-i-i q-i-h-h x-e-u a-e-i nx p-e-u-i a-e-p nx p-e-u-i a-e-p nx q-x-h-h q-i-h-h a-e-i n_of-x-i _ v-toe-i-p _

[21294024]

Since then , further research argues that failure to take account of quality improvements has contributed a total of at least 0.26 percentage point to the downward bias in the growth rate .
p-e-u-i time_nx _ a-e-i-i nx v_toe-i-h-i _ nx-h _ v_of-i-e-i-p-i n_ix _ nx nx _ v_toe-i-p-i q-i-h-h n_of-x-i _ x-e-u x-e-u card-i-i-c n_of-x n_of-x _ q-i-h-h a-e-p nx p-e-u-i q-i-h-h n_of-x-i n_of-x-i _

[21294027]



[21294028]

