



INSTITUTE FOR DEFENSE ANALYSES

**Analysis of a Salary-Based Pay  
System for the Quadrennial Review  
of Military Compensation (QRMC)  
Conference Briefing**

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Jerome Bracken  
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June 2020

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### **About This Publication**

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## Executive Summary

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This paper supports the goal of the Quadrennial Review of Military Compensation (QRMC) of understanding how a compensation system that combines basic pay, housing, and subsistence allowances into a single, taxable “salary” would affect Service members’ earnings and behavior as well as the readiness, cost, and tax revenue implications of such a system. We undertook three lines of effort. First, we modeled the after-tax income effects of transitioning to a salary system. Second, we used econometric models to estimate the likely responses of Service members to changes in after-tax income. Third, we conducted focus groups with 740 Service members in every Service by visiting Active and Reserve Component installations in four states.

We found that a salary system that holds cost to the Federal Government constant would reduce take-home pay by roughly \$600 million because of the additional state taxes that Service members would have to pay. The total cost to the Department of Defense would increase by more than \$9 billion.

Career retention would likely decline as a result of the reduced salary and a shallower rank-earnings profile. Accessions for enlisted personnel might benefit. Focus groups and surveys reveal that Service members are generally opposed to a salary system—they think the current system is “fair enough.”

Overall, we find that the implementation of the proposed single-salary system would introduce substantial additional complexity, reduce aggregate take-home compensation, and generate little, if any, benefit to readiness. Moreover, a salary system is likely to encounter substantial resistance from current Service members.





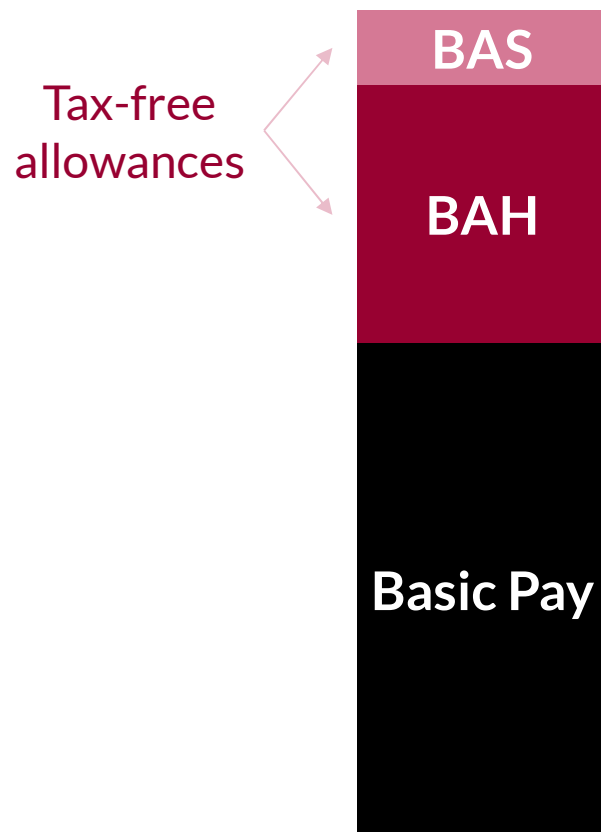
# Analysis of a Salary-Based Pay System for the Quadrennial Review of Military Compensation (QRMC)

Western Economic Association International  
Virtual Conference  
June 2020

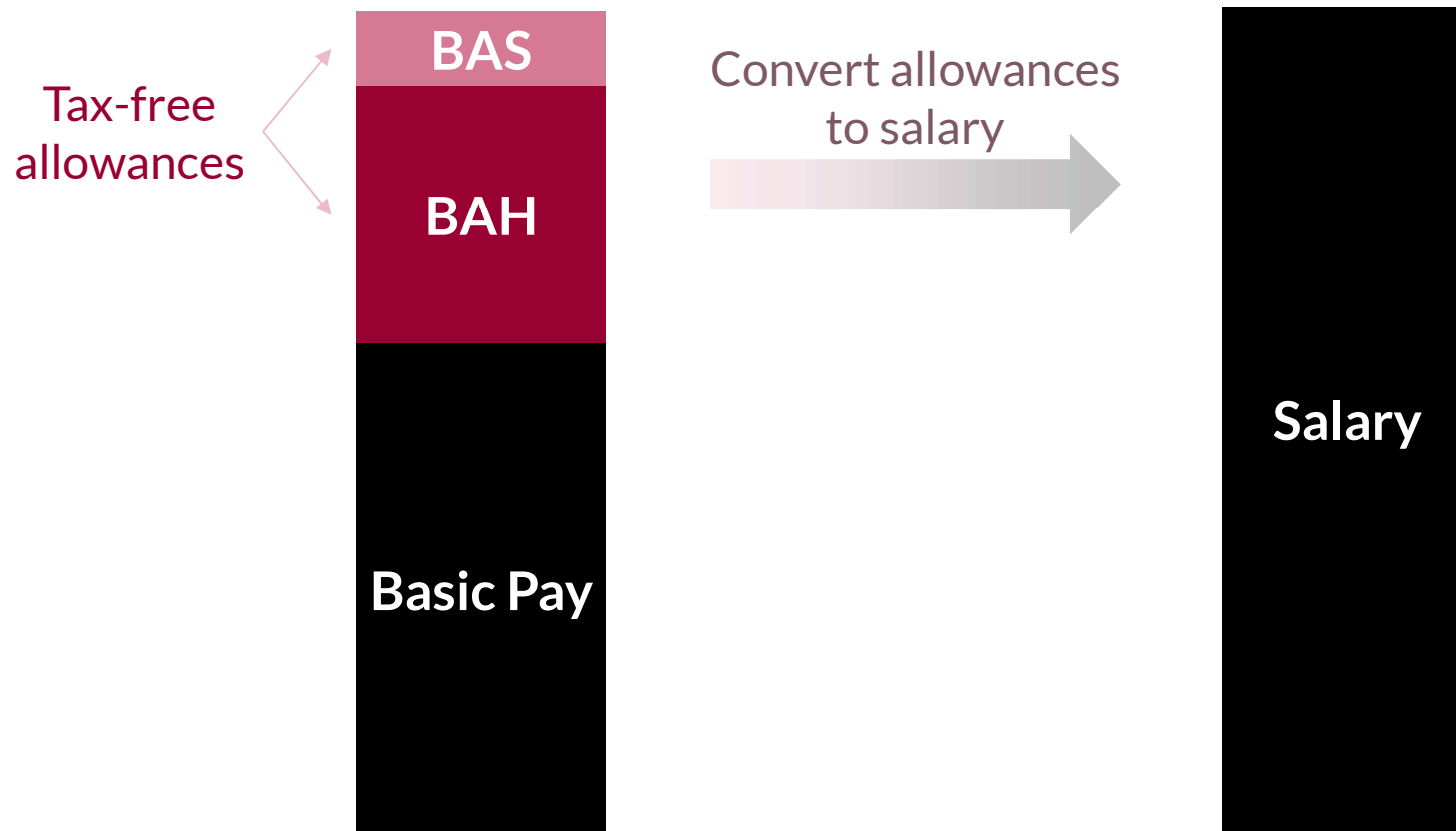
Joe Adams  
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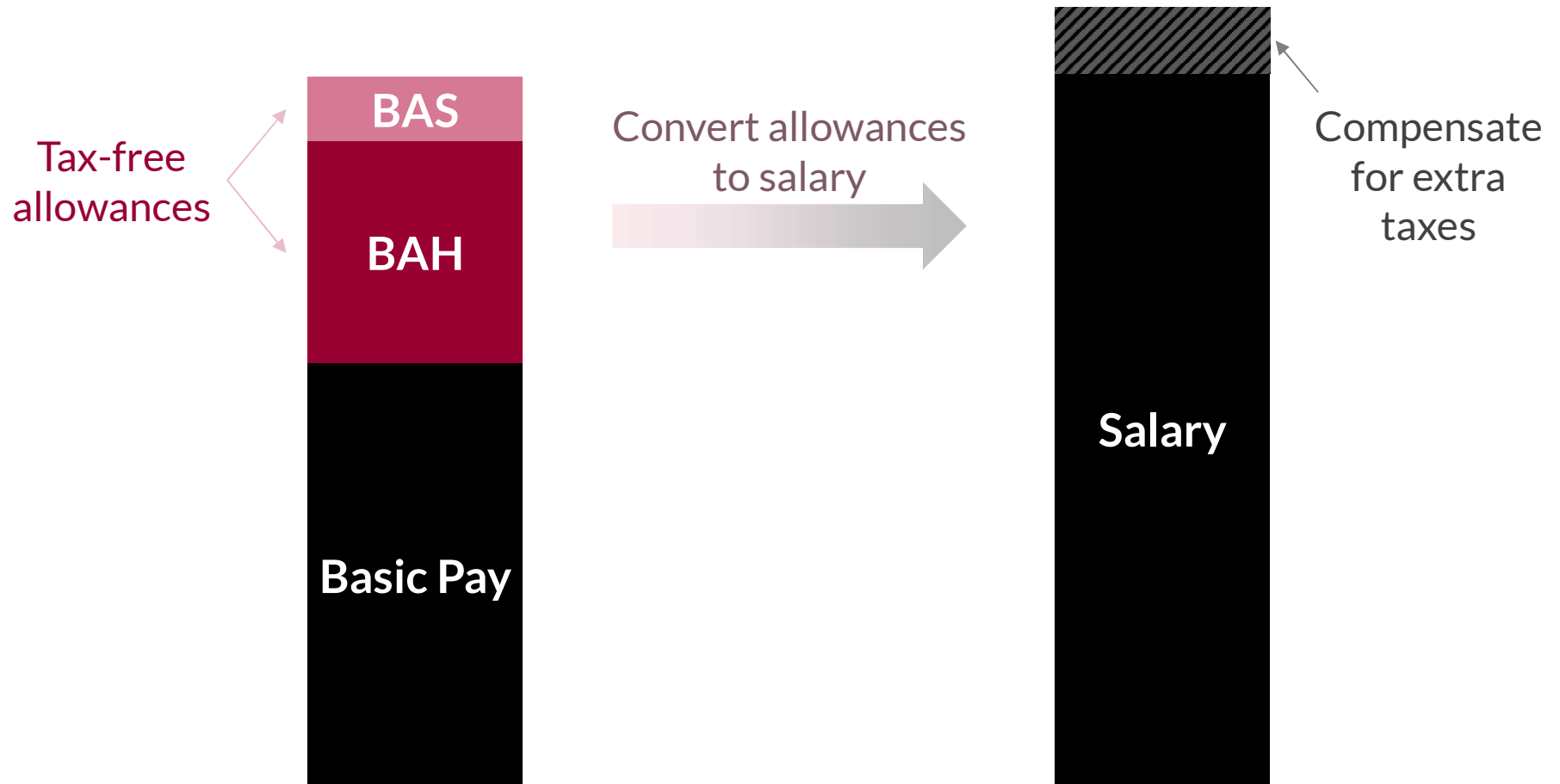
# Would a single-salary system enhance readiness better than the current military compensation system?



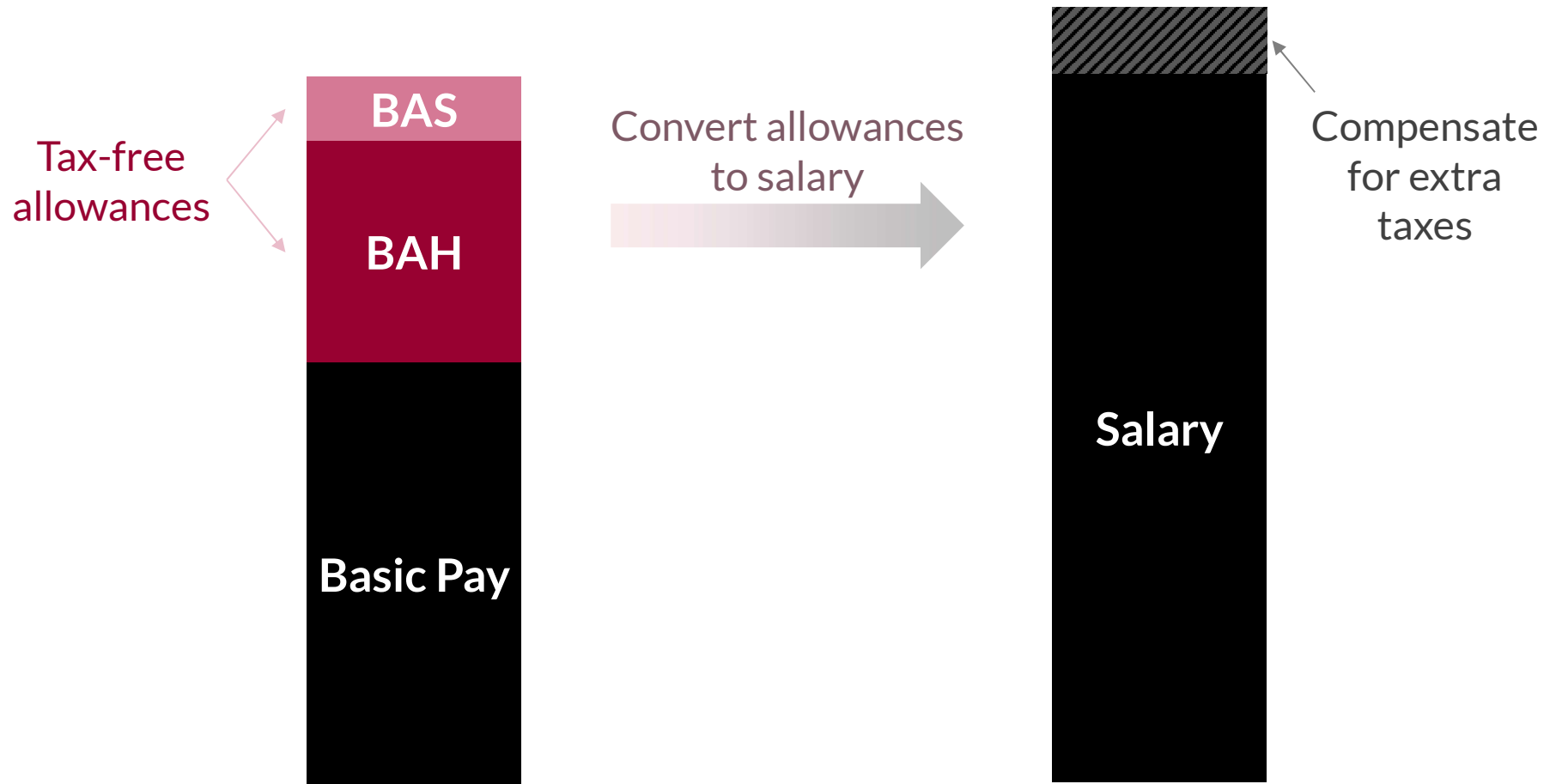
# Would a single-salary system enhance readiness better than the current military compensation system?



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# Would a single-salary system enhance readiness better than the current military compensation system?



“No or minimal additional cost to the Federal Government”

# IDA pursued three lines of work

Identify the cost implications of potential salary systems as well as their effects on different categories of service members

Estimate the implications of the potential systems for recruiting, retention, and the experience profile of the force

Elicit the opinions of service members about potential salary systems

# Effects on compensation and cost

If cost to the Federal Government is held constant, aggregate take-home pay would fall by roughly \$600 million due to impacts of state taxes

The cost to DoD would rise by over \$9 billion to offset Federal taxes

The distributional impact of a salary system depends on its design

Locality pay would vary less than BAH, resulting in winners and losers

# Bottom line up front

A salary system would increase complexity

Career retention would likely decline, although accessions might benefit

Service members do not like the idea

The transition to a salary system would be very disruptive

# Effects of Potential Salary Systems on Different Categories of Personnel

By rank

With dependents (“married”) and without (“single”)

Receiving BAH vs. living in government-owned housing

# Distribution of personnel by category

|                 | Receiving BAH |                | Not Receiving BAH |              |
|-----------------|---------------|----------------|-------------------|--------------|
|                 | Single        | Married        | Single            | Married      |
| O-10            | <10           | 33             | <10               | <10          |
| O-9             | <10           | 140            | <10               | <10          |
| O-8             | <10           | 297            | <10               | <10          |
| O-7             | <10           | 426            | 10                | <10          |
| O-6             | 335           | 10,895         | 363               | 84           |
| O-5             | 1,217         | 25,618         | 1,213             | 86           |
| O-4             | 4,029         | 38,040         | 2,466             | 115          |
| O-3             | 21,428        | 47,900         | 5,062             | 207          |
| O-2             | 16,175        | 11,399         | 1,997             | 273          |
| O-1             | 15,934        | 5,252          | 3,002             | 1,150        |
| <b>Officers</b> | <b>59,129</b> | <b>140,000</b> | <b>14,125</b>     | <b>1,921</b> |
| W-5             | 34            | 746            | 22                | <10          |
| W-4             | 97            | 2,565          | 82                | <10          |
| W-3             | 181           | 5,017          | 167               | 17           |
| W-2             | 535           | 6,070          | 254               | 29           |
| W-1             | 320           | 2,048          | 107               | 57           |
| <b>Warrant</b>  | <b>1,167</b>  | <b>16,446</b>  | <b>632</b>        | <b>108</b>   |

|                 | Receiving BAH  |                | Not Receiving BAH |               |
|-----------------|----------------|----------------|-------------------|---------------|
|                 | Single         | Married        | Single            | Married       |
| E-9             | 384            | 9,578          | 346               | 20            |
| E-8             | 1,121          | 24,531         | 928               | 52            |
| E-7             | 5,696          | 83,326         | 4,065             | 155           |
| E-6             | 21,218         | 133,717        | 9,876             | 397           |
| E-5             | 60,010         | 127,835        | 32,354            | 8,962         |
| E-4             | 62,315         | 73,601         | 82,481            | 18,979        |
| E-3             | 31,161         | 21,973         | 116,426           | 20,247        |
| E-2             | 7,916          | 2,951          | 57,793            | 6,100         |
| E-1             | 3,977          | 1,236          | 47,420            | 2,661         |
| <b>Enlisted</b> | <b>193,798</b> | <b>478,748</b> | <b>351,689</b>    | <b>57,573</b> |
| <b>Total</b>    | <b>254,094</b> | <b>635,194</b> | <b>366,446</b>    | <b>59,602</b> |

**426,000 personnel in government-owned housing,  
not privatized housing!**

# We calculated distributional effects on take-home pay for four possible salary systems

**Baseline:** basic pay increases by the same proportion in every pay grade

Results in large differences in percent losses by pay grade and by BAH status

**Tailored:** pay increases vary by pay grade to reduce variation in losses

**Baseline with rents:** charged to BAH non-recipients to reduce variation by BAH status

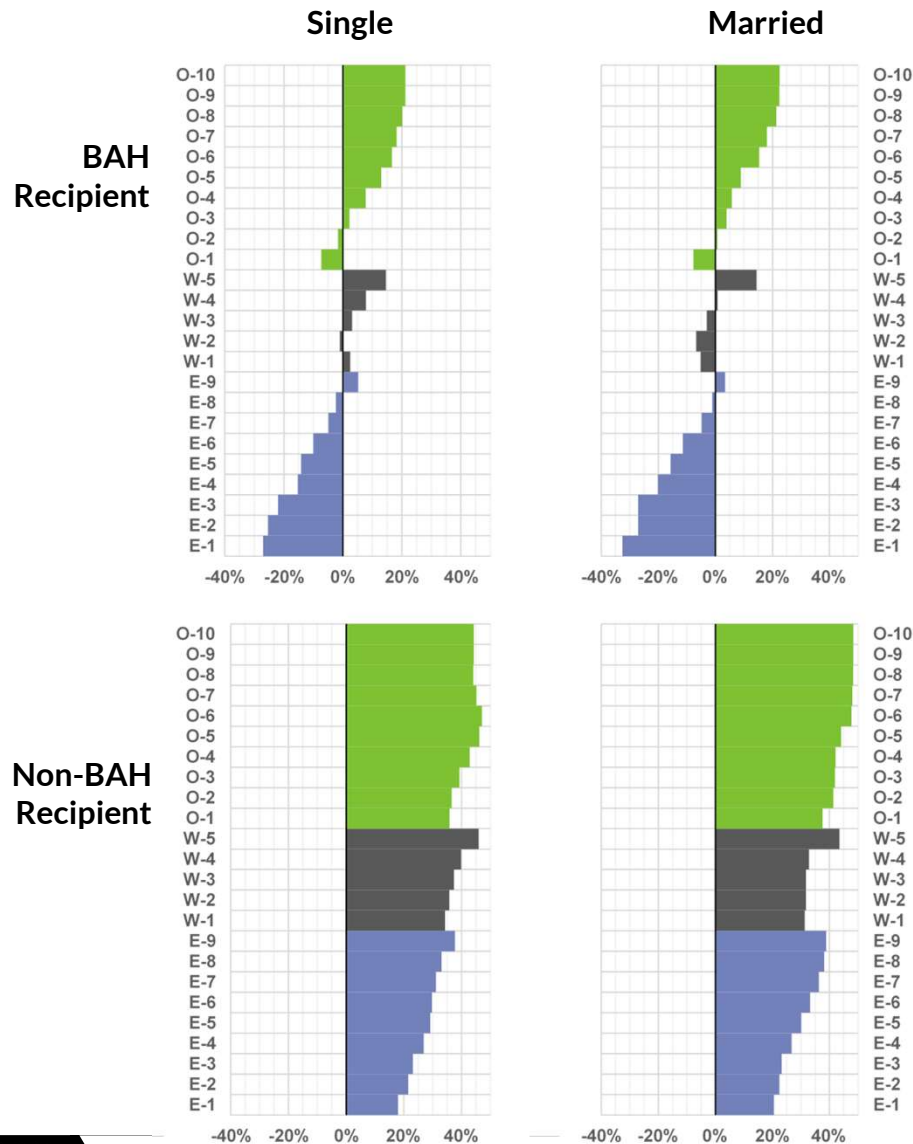
**Tailored with rents:** charged to BAH non-recipients to address major variations by pay grade and BAH status

Today we will show results just for the baseline system and the tailored system with rents

# We developed a simple rule of thumb for the value of government-provided housing as a percent of BAH



# Under the baseline alternative, average changes in take-home pay range from -33% to +48%



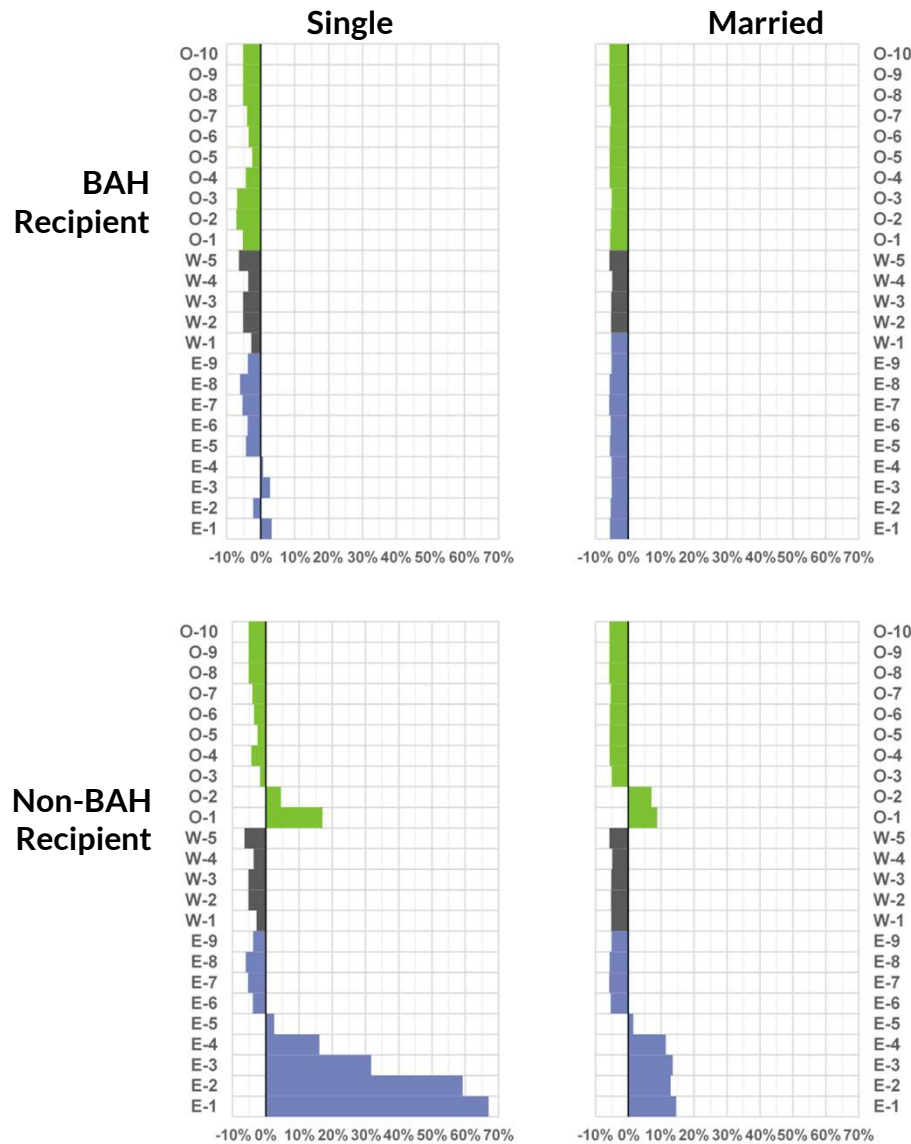
Basic pay increases by 54%

Among BAH recipients, enlisted lose and officers gain because BAH is now a larger fraction of compensation in lower ranks

Non-recipients gain because they do not lose a benefit under shift to salary system

*Value of government-owned housing not included in take-home pay*

# Under the tailored alternative with rents, average changes in take-home pay range from -7% to +67%



Effects largely equalized compared to baseline alternative, but the remaining variations could still have an impact

Junior enlisted personnel in government-owned housing see large gains because their housing has little market value and they do not have to pay rent

# Conclusions to distributional analysis of potential salary systems

Implementing a salary system like our baseline would affect different groups of service members very differently

Tailoring increases in basic pay by rank and introducing rent payments for government-owned housing would reduce these inequities

A tailored salary system with rents would provide junior enlisted personnel an increase in salary without an offsetting rent increase

# Locality Pay Analysis

2017 NDAA specified that a salary system should be “adjusted by the same cost-of-living adjustment that [DoD] uses worldwide for civilian employees”

# Geographic adjustments of government civilian salaries are based on wage differences in relevant occupations

This is not the same as adjusting for cost-of-living differences

To some extent, wage differentials account for quality-of-life factors

People will pay more (accept less buying power) to live in Hawaii

BAH and locality pay are correlated, but not perfectly

Hawaii: high BAH, low locality pay

Houston: low BAH, high locality pay

We considered the impact of incorporating civilian location pay into a DoD salary system by looking at a range of specific locations

# The effect of shifting from BAH to locality pay would depend a great deal on where one is stationed

We compared geographic pay relative to Atlanta, a location with roughly average BAH and locality multiple

In Atlanta, E-5 BAH is \$2,635 and O-4 BAH is \$2,882

Location Differentials (relative to Atlanta)  
for Married Personnel (dollars/month)

|                                | E-5    |              | O-4    |              |
|--------------------------------|--------|--------------|--------|--------------|
|                                | BAH    | Locality Pay | BAH    | Locality Pay |
| Honolulu (high BAH/low loc.)   | 651    | -110         | 1,077  | -216         |
| San Diego (high BAH/high loc.) | 588    | 323          | 957    | 633          |
| Lawton, OK (low BAH/low loc.)  | -1,374 | -263         | -1,119 | -517         |
| Anchorage (avg. BAH/high loc.) | -195   | 319          | 75     | 625          |

Locality pay has a lower variance than BAH

# Recruiting and Retention Analyses

By rank

Single and married

Receiving BAH vs. living in government-owned housing

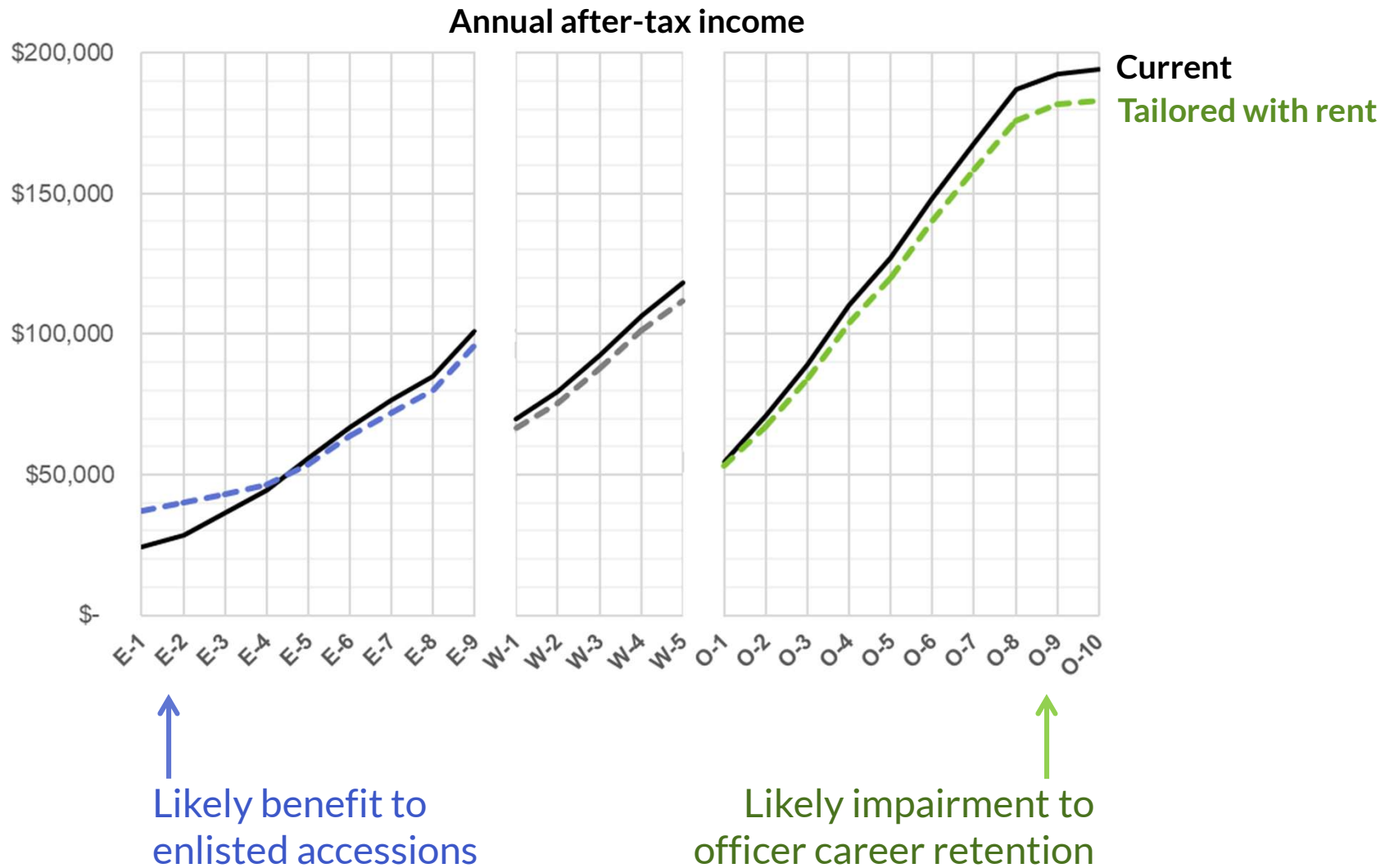
# We took two approaches to quantitative analysis of behavioral responses to a salary system

Estimates based on the literature—recruiting and retention

New empirical analysis using advanced techniques

Focus on tailored salary system with rents

# The rank-earnings profile of salary system is shallower



# Potential change in high-quality enlisted recruits from implementing a tailored salary system with rents

| <u>Relevant ranks</u> | <u>Average salary increase</u> | <u>Percent change in supply of high-quality enlisted recruits (min. and max.)</u> |     |
|-----------------------|--------------------------------|---|-----|
| E-1 to E-4            | 11%                            | 7%  | 12% |
| E-1 to E-9            | 9%                             | 5%  | 10% |

Result depends on time-horizon of recruits—  
salary increase concentrated in lower pay grades

Based on RAND analyses

# Literature-based retention analysis

A CNA literature review by Matt Goldberg (2001) found that a 1% change in military compensation increased first-term reenlistment by 1.1%–2.2%

RAND found that a 10% increase in officer compensation would cause retention to year 20 to increase by over 10 percentage points

A salary system might reduce the retention of officers to year 20 by 5 percentage points

**Our instrumental variables approach, based on changes in state tax rates, found no significant effect on retention**

# Service Member Attitudes

Status of Forces survey

Focus groups

# Focus group participants identified some issues they have with the current compensation package

Employment stability is more important than pay in enlistment decisions

Some senior NCOs and warrant officers feel underpaid

BAH is too low

Some service members feel that academic qualifications should get more consideration in promotion decisions

Both Active and Reserve personnel value the healthcare benefit

Childcare services are very important

The quality of on-base housing, particularly barracks, is poor

# Focus group participants overwhelmingly opposed a salary system

*The current system is fair enough.*

*What problem are you trying to solve?*

# Status of Forces respondents are very skeptical

Under 20% supported moving to a salary system



**66%** strongly or somewhat opposed a change, particularly service members with more experience

13% said a salary system would make retention more likely



**51%** said it would **make their retention less likely**—again this was correlated with time in service

# Conclusions

# The transition to a salary system would be complex

The distributional impact of a salary system depends on its design

A salary system that incorporates rents for government-owned housing and pay increases that vary by rank would mitigate extreme inequities

State taxes would cut take-home pay by roughly \$600 million under a salary system, if the Federal cost is unchanged

To offset Federal taxes, DoD's budget would rise by over \$9 billion

Substituting locality pay for BAH would lead to winners and losers based on conditions at specific locations

# Transition risks are high

A salary system might enhance enlisted recruiting  
and harm the retention of career officers

*But the net effect cannot be predicted with confidence*

Service members are skeptical of a salary system  
and see no particular reason for it

*Uncertainty and complexity create substantial transition risks*

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