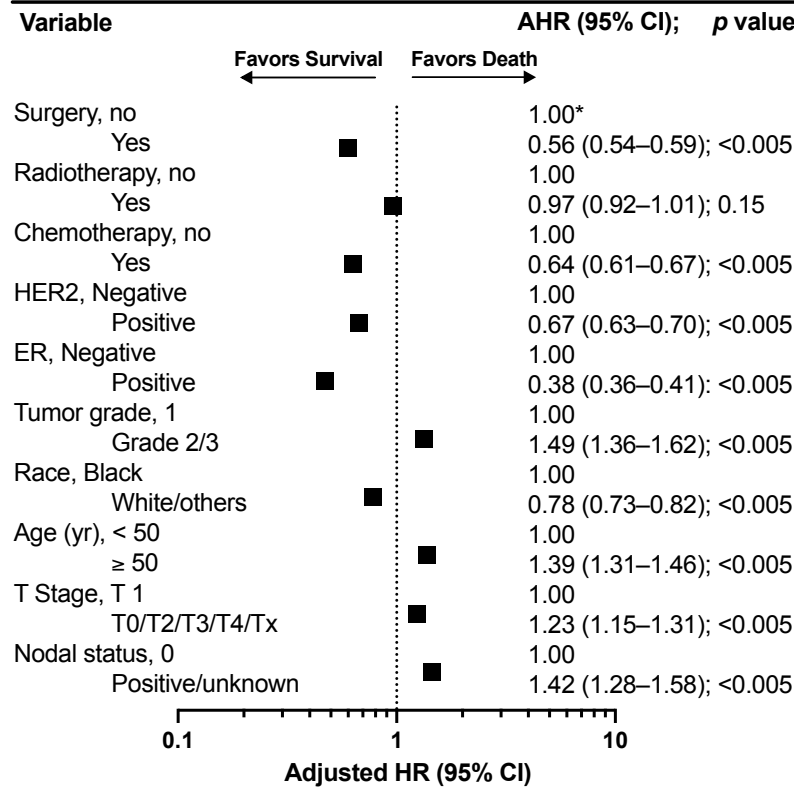


## Supplementary Figure 1

### a Multivariable Cox proportional regression analysis for all-cause mortality

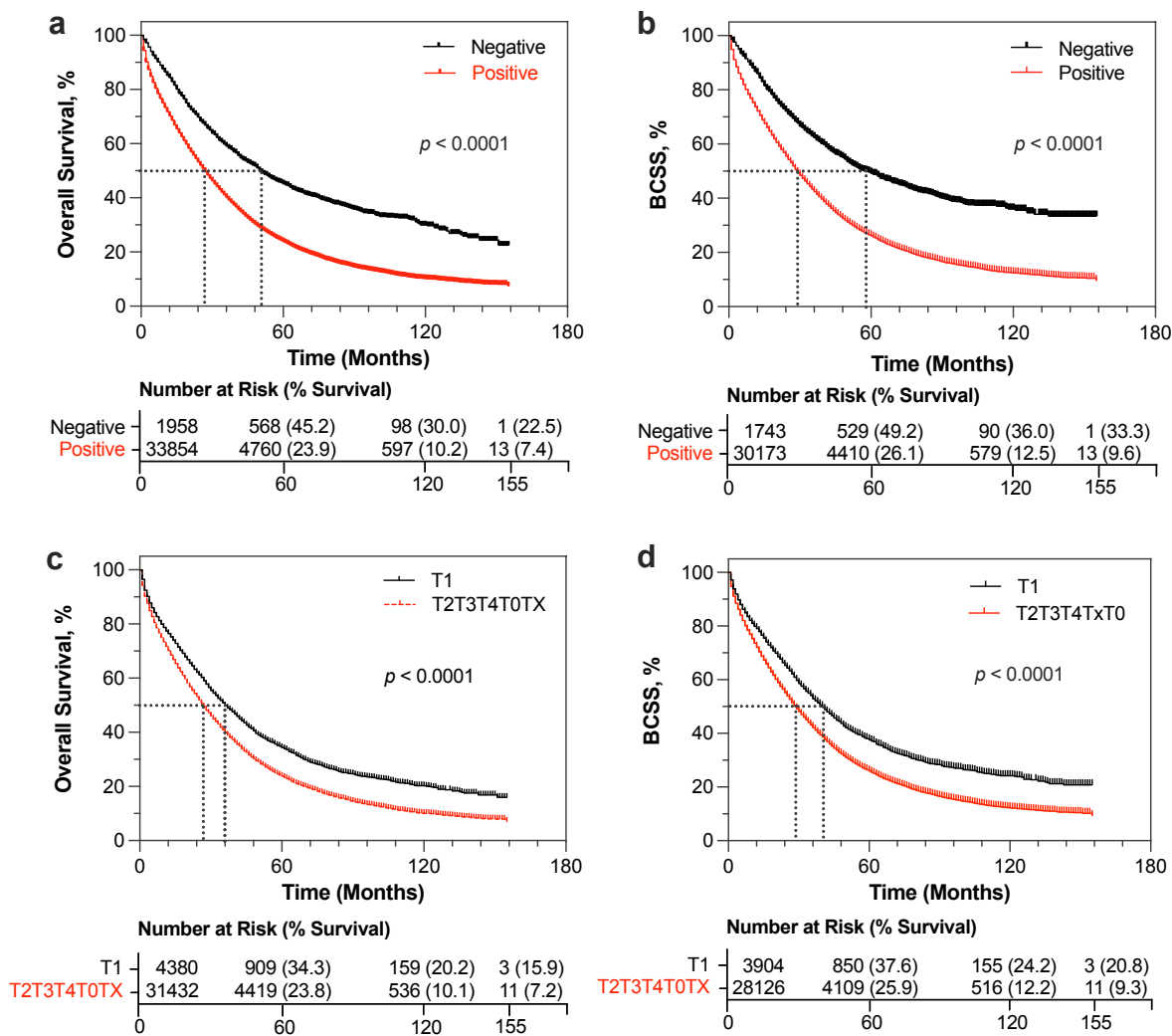


### b The event rate and risk of breast cancer-specific mortality by nodal status and T stage at univariate level

| Subgroup                     | Event number (rate, %) | HR (95% CI)      | p value |
|------------------------------|------------------------|------------------|---------|
| Nodal status, negative       | 887 (50.9)             | Ref              |         |
| Node-positive status         | 6862 (61.3)            | 1.39 (1.30–1.48) | <0.0001 |
| Positive plus unknown status | 21168 (70.2)           | 1.66 (1.58–1.75) | <0.0001 |
| 1–3                          | 2168 (58.7)            | 1.24 (1.15–1.34) | <0.0001 |
| 4–9                          | 1320 (61.9)            | 1.26 (1.16–1.37) | <0.0001 |
| ≥10                          | 3374 (62.9)            | 1.62 (1.52–1.74) | <0.0001 |
| Nx                           | 14306 (75.4)           | 1.87 (1.78–1.96) | <0.0001 |
| T stage, 1                   | 2354 (60.3)            | Ref              |         |
| T2T3T0T4                     | 15459 (68.9)           | 1.31 (1.26–1.36) | <0.0001 |
| T2T3T0T4Tx                   | 19815 (70.5)           | 1.35 (1.30–1.40) | <0.0001 |
| T2                           | 5145 (62.8)            | 1.09 (1.04–1.15) | 0.0003  |
| T0                           | 399 (63.5)             | 1.17 (1.05–1.31) | 0.006   |
| T3                           | 2733 (66.8)            | 1.26 (1.19–1.33) | <0.0001 |
| T4                           | 7182 (75.4)            | 1.60 (1.53–1.67) | <0.0001 |
| Tx                           | 4356 (76.5)            | 1.62 (1.54–1.70) | <0.0001 |

**Supplementary Figure 1 All-cause mortality with HER2 by multivariable Cox proportional regression analysis and BCSM by nodal status and T stage. a**, Multivariable Cox model with HER2, and all covariates in association with the number of death events in the Cox model for all-cause mortality were analyzed by likelihood ratio test; data are presented as adjusted HR (AHR) with 95% CI. \*1.00, reference population. AHR of 1.00 indicates a lack of association; greater than 1.00, an increased risk of mortality; and less than 1.00, a decreased risk of mortality in the forest plot. ER, estrogen receptor; HER2, human epidermal growth factor receptor 2. **b**, Event rate and risk of BCSM by nodal status and T stage at univariate level. HR and 95% CI of ratio were computed by Cochran-Mantel-Haenszel test. BCSM, breast cancer-specific mortality; HR, hazard ratio; Ref, reference population.

Supplementary Figure 2



**Supplementary Figure 2 Survival of patients with metastatic breast cancer by nodal status and T stage.** **a**, Kaplan-Meier analysis of OS and **b**, of BCSS by comparing node-negative to node-positive and unknown. **c**, Kaplan-Meier estimate of OS and **d**, of BCSS by T1 versus T2T3T4T0Tx combined. Tick-marks represented the censored patients at the time of last known alive. BCSS, breast cancer-specific survival; Negative, node-negative; Positive, node-positive; OS, overall survival, Unknown, node status unknown.