Multispatial CCM test: pdo win as a forcing process on recspn5 ESU, offset: 2 MFS, offset: 2 UPS, offset: 2 IMN, offset: 2 Tau = 1, p = 0.2Tau = 1, p = 0.01Tau = 1, p = 0.26Tau = 1, p = 0.390.3 0.4 0.3 0.3 Tau = 2, p = 0.44Tau = 2, p = 0.54Tau = 2, p = 0.02Tau = 2, p = 0.63Tau = 3, p = 0.24Tau = 3, p = 0Tau = 3, p = 0.29Tau = 3, p = 0.370.2 0.2 0.2 Tau = 4, p = 0.58Tau = 4, p = 0.03Tau = 4, p = 0.57Tau = 4, p = 0.59<u>و</u> 0.2 rho Tau ≠ 5, p = 0.5 Tau = 5, p = 0.03Tau $\triangle 5$, p = 0.36 Tau = 5, p = 0.080.1 Tau = 6, p = 0.62Tau = 6, p = 0.08Tau = 6, p = 0.55 Tau = 6, p = 0.30.0 0.0 0.0 -0.1 -0. 1000 200 200 300 500 100 300 100 200 300 100 Library length, L Library length, L Library length, L Library length, L ESU, offset: 3 MFS, offset: 3 IMN, offset: 3 UPS, offset: 3 0.5 0.4 Tau = 1, p = 0.26Tau = 1, p = 0.51Tau = 1, p = 0Tau = 1, p = 0.590.3 0.4 Tau = 2, p = 0.11Tau = 2, p = 0.16Tau = 2, p = 0Tau = 2, p = 0.50.3 Tau = 3, p = 0.310.3 Tau = 3, p = 0.08Tau = 3, p = 0.2Tau = 3, p = 0.310.2 0.2 0.2 Tau = 4, p = 0.7rho Tau = 4, p = 0.13Tau = 4, p = 0.04Tau = 4, p = 0.24rho <u>e</u> 0.2 rho 0.1 0.1 Tau = 5, p = 0.02Tau = 5, p = 0.32Tau = 5, p = 0.21Tau = 5, p = 0.590.1 0.1 Tau = 6, p = 0Tau = 6, p = 0.19Tau = 6, p = 0.21Tau = 6, p = 0.140.0 0.0 0.0 0.0 -0.1-0.1 -0.1 -0.1 1000 500 100 200 300 200 200 300 100 300 100 Library length, L Library length, L Library length, L Library length, L ESU, offset: 4 MFS, offset: 4 IMN, offset: 4 UPS, offset: 4 0.4 0.5 Tau = 1 , p = 0.01 Tau = 1, p = 0.44Tau = 1, p = 0.53Tau = 1, p = 0.470.3 0.4 0.3 Tau = 2, p = 0.32Tau = 2, p = 0.04Tau = 2, p = 0.55Tau = 2, p = 0.19Tau = 3, p = 0.19Tau = 3, p = 0.08Tau = 3, p = 0.44Tau = 3, p = 0.040.3 0.2 0.2 0.2 Tau = 4, p = 0.35Tau = 4, p = 0.37Tau = 4, p = 0.03Tau = 4, p = 0.35rho rho <u>2</u> 0.2 Tau = 5, p= 0.51 Tau = 5, p = 0.26Tau = 5, p = 0.01Tau = 5, p = 0.570.1 0.1 0.1 Tau = 6, p = 0Tau = 6, p = 0.28Tau = 6, p = 0.25Tau = 6, p = 0.550.0 0.0 0.0 0.0 -0.1-0.1 -0.1-0.1200 500 1000 300 100 200 300 200 300 100 100 Library length, L Library length, L Library length, L Library length, L MFS, offset: 5 ESU, offset: 5 IMN, offset: 5 UPS, offset: 5 0.5 0.4 Tau = 1, p = 0.16Tau = 1, p = 0.02Tau = 1, p = 0.5Tau = 1, p = 0.140.4 Tau = 2, p = 0.03Tau = 2, p = 0.26Tau = 2, p = 0.30.3 Tau = 2, p = 0.280.3 Tau = 3, p = 0.02Tau = 3, p = 0.37Tau = 3, p = 0.16Tau = 3, p = 0.140.2 0.2 Tau = 4, p = 0.18Tau = 4, p = 0.03Tau = 4, p = 0.470.2 Tau = 4, p = 0.06rho rho rho 0.2 0.1 Tau = 5, p = 0Tau = 5, p = 0.26Tau = 5, p = 0.15Tau = 5, p = 0.530.1 0.1 0.1 Tau = 6, p = 0.2Tau = 6, p = 0.03Tau = 6, p = 0.02Tau = 6, p = 0.390.0 0.0 0.0 0.0 -0.1-0.1-0.1-0.1 500 1000 200 300 200 300 200 300 100 100 Library length, L Library length, L Library length, L Library length, L

forecast skill, rho

library length, L