Supplementary Material Table 2. Prediction of continent classification by ordinal logistic regression (PLUM) on estimated number of breast cancer operations per center, estimated number of annual breast MRI examinations per center, and estimated number of breast centers per country that use preoperative breast MRI

Metric variable meaning	Estimate	Significance (*p*)	Effect direction	Interpretation after post-hoc analysis
Estimated number of breast cancer operations per center	0.001	0.355 (ns)	Neutral	Surgical volume does not significantly predict continent classification.
Estimated number of annual breast MRI examinations per center	0.001	0.022 (*)	Positive	Centers performing more annual breast MRI exams are more likely to be in Europe/North America compared to Asia/Latin America.
Estimated number of breast centers per country that use preoperative breast MRI	-0.003	0.004 (*)	Negative	Countries with more centers using preoperative MRI are less likely to be classified as Europe/North America, suggesting wider adoption in Asia

Note: Ordinal regression analysis (PLUM) demonstrated that the overall model significantly improved prediction of continent classification ($\chi^2 = 23.237$, $p<0.001$), with moderate explanatory power (Nagelkerke $R^2 = 0.348$). Post-hoc analysis highlights that in in Europe and North America, MRI use is concentrated in fewer centers with high annual examination volumes ("high-volume, concentrated use"). In contrast, Japan shows broader diffusion, with more centers per country adopting preoperative MRI but each performing fewer examinations ("broad, diffuse adoption"). Surgical volume is not a key driver of international variation. MRI: Magnetic resonance imaging