APPENDIX A. PERFORMANCE RESULTS FOR ALL PROCESSOR CONFIGURATIONS

For the interested reader, this appendix presents the complete set of control-block-level performance distributions for the four processor configurations analyzed in Chapter 4. For the reader's convenience, the overall benchmark performance distributions for the four processor configurations are presented again at the end of this appendix.

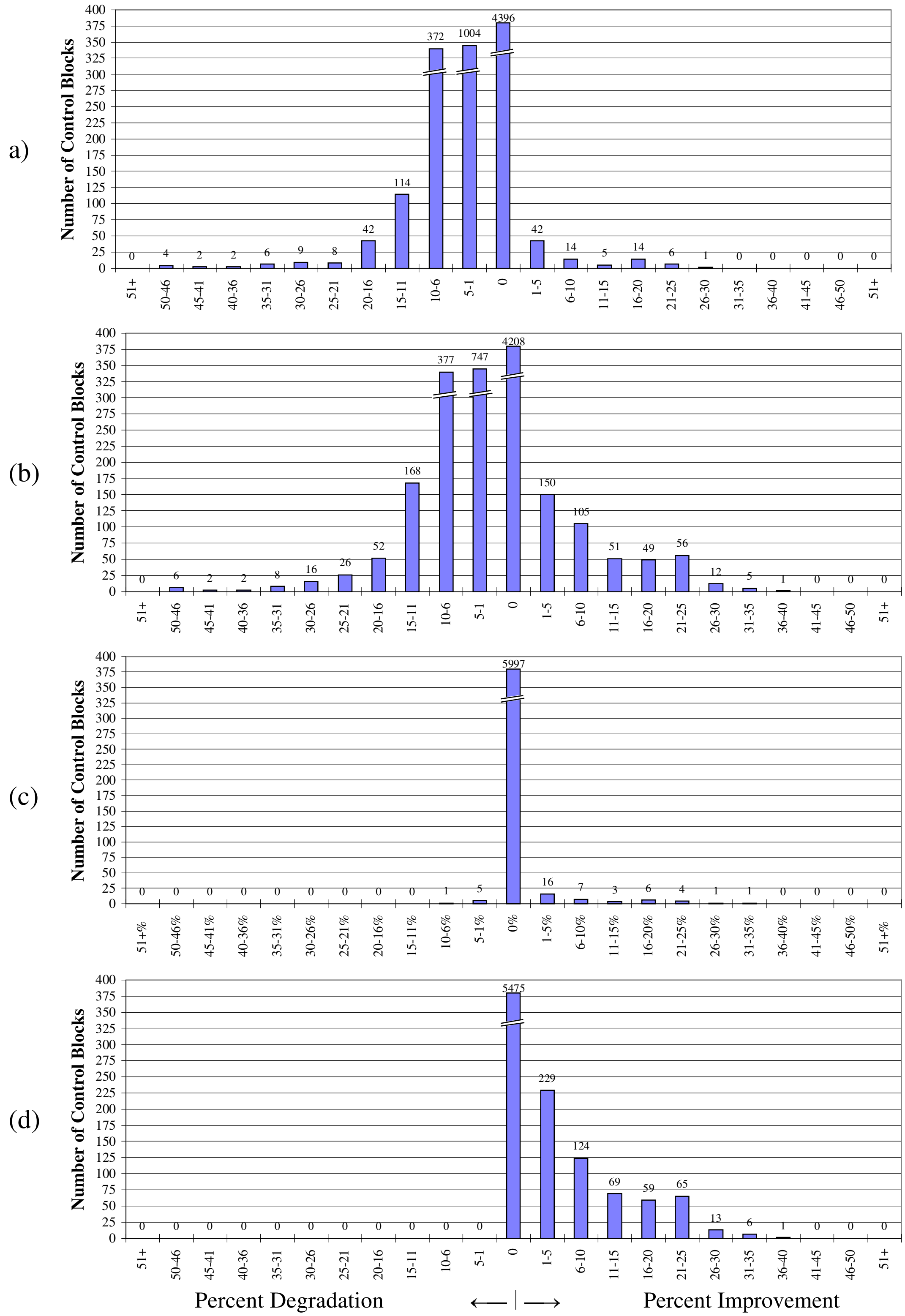

Figure A.1: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the one-issue processor configuration.

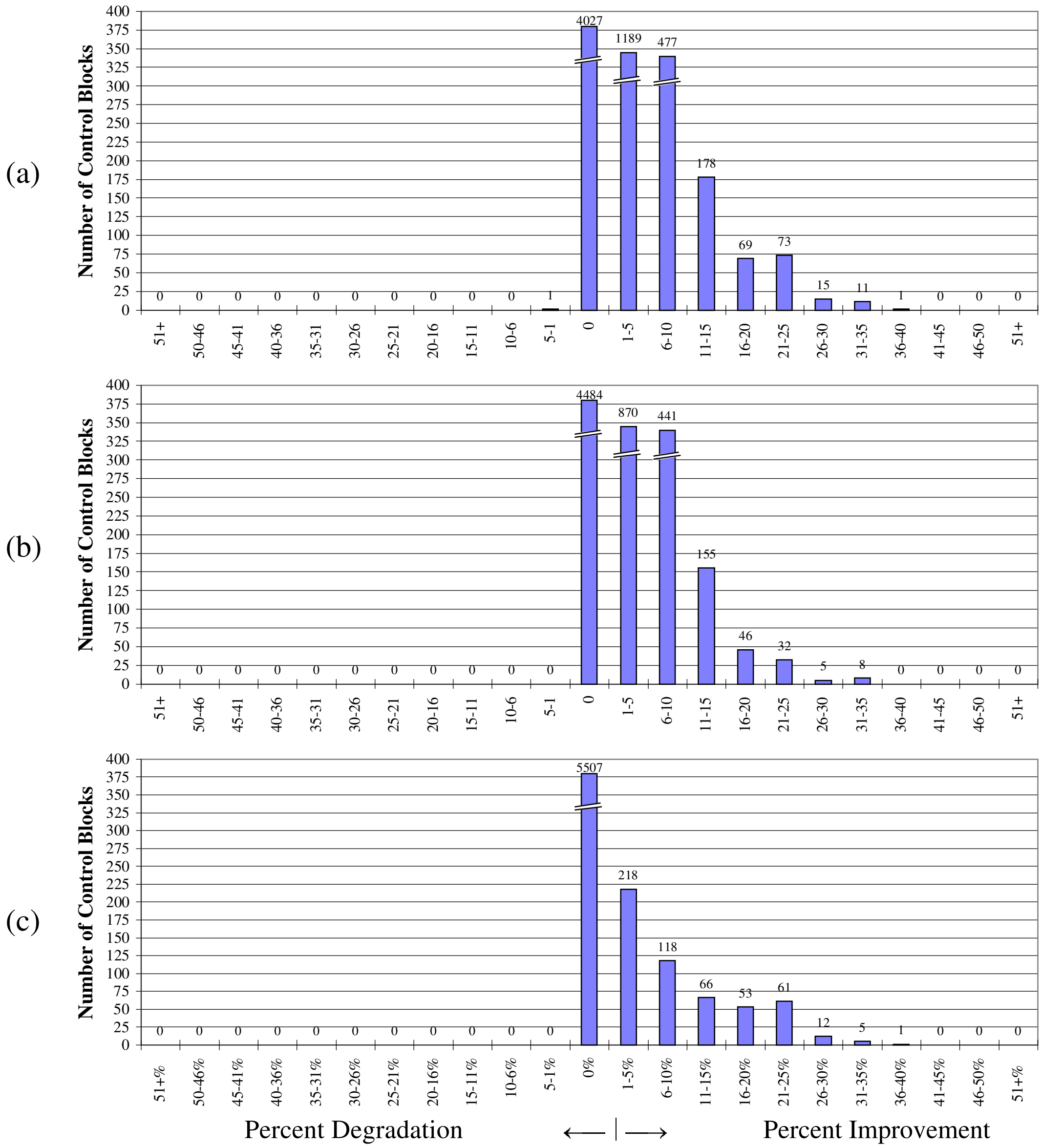

Figure A.2: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the one-issue processor configuration.

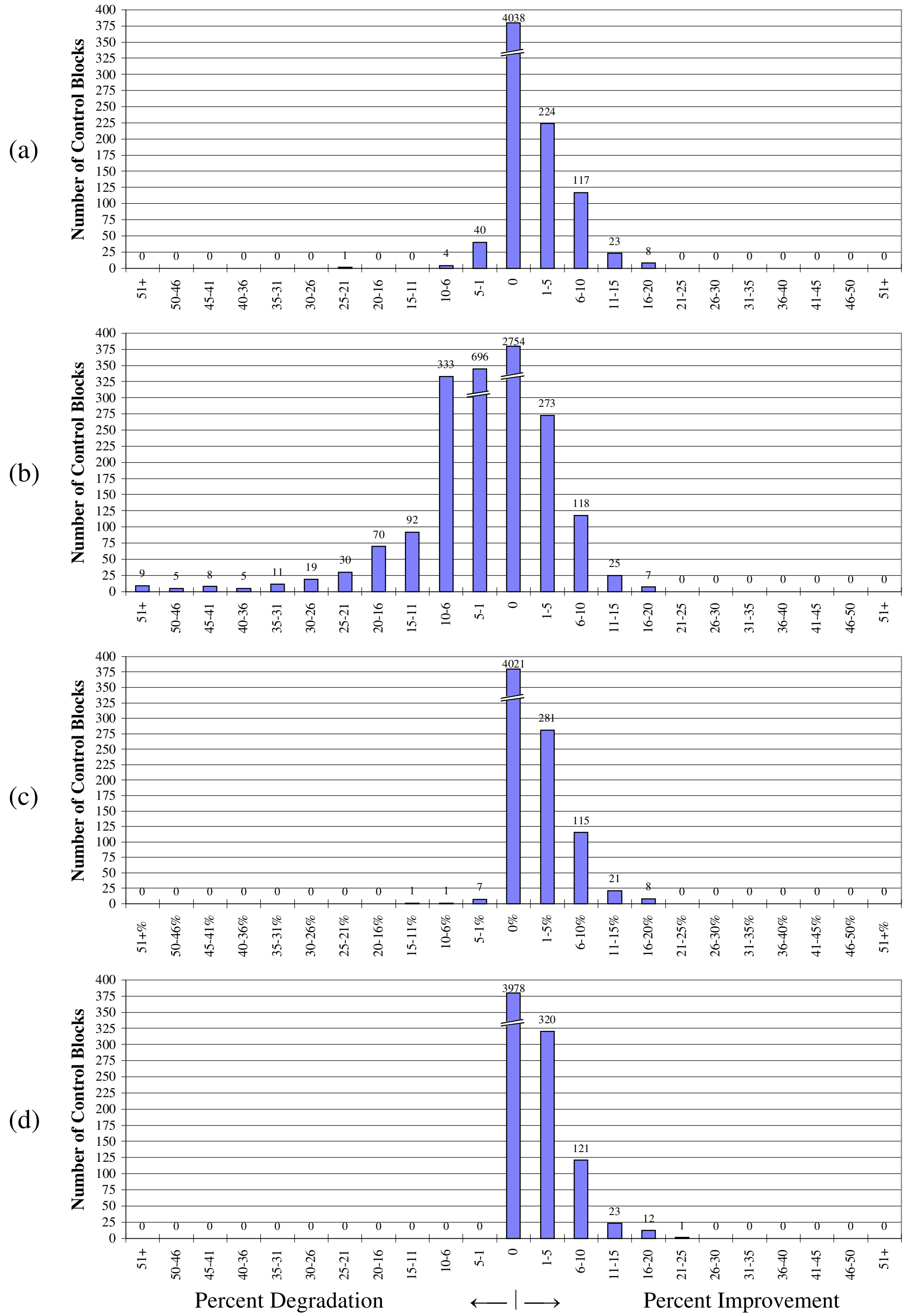

Figure A.3: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the one-issue processor configuration.

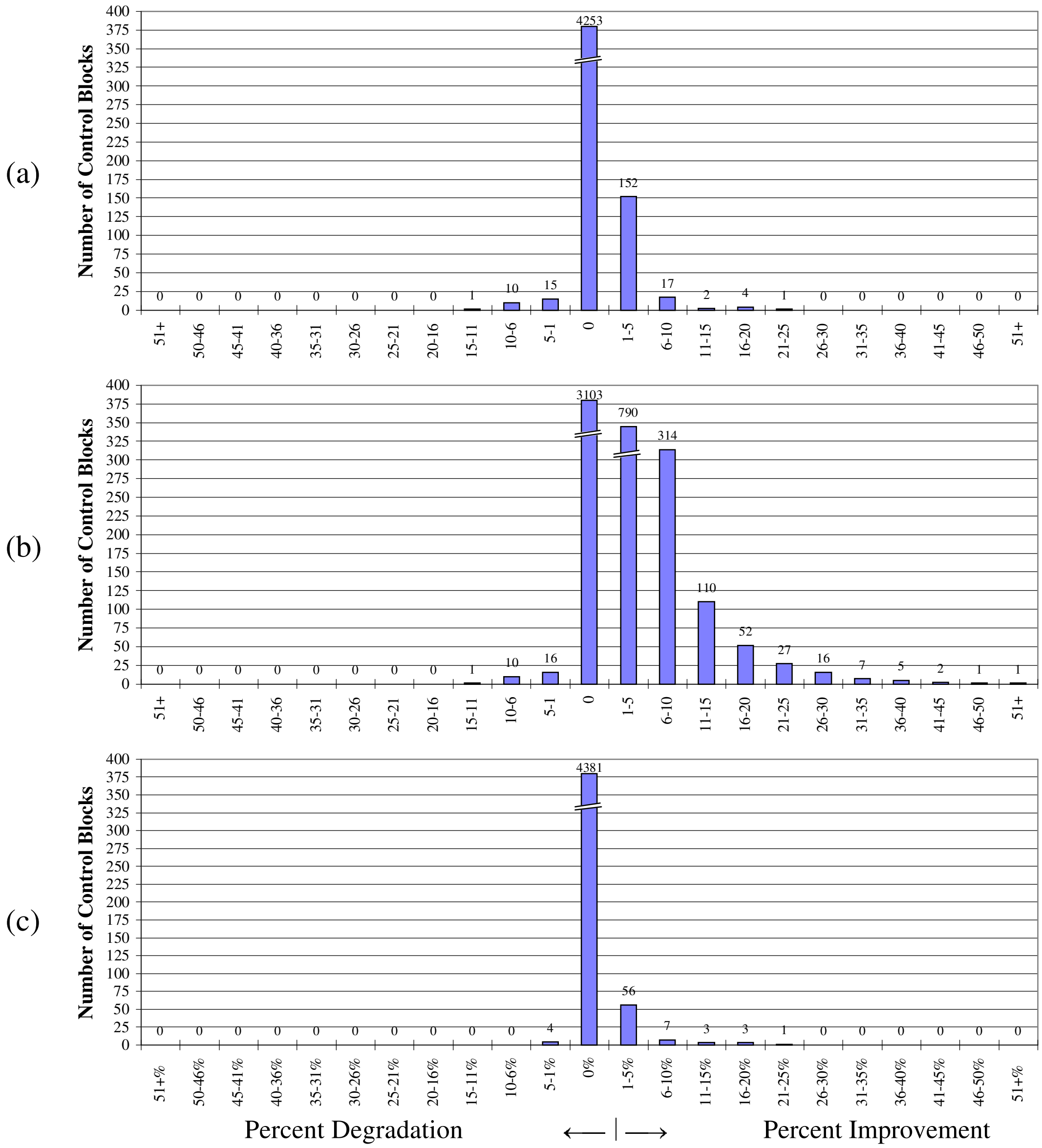

Figure A.4: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the one-issue processor configuration.

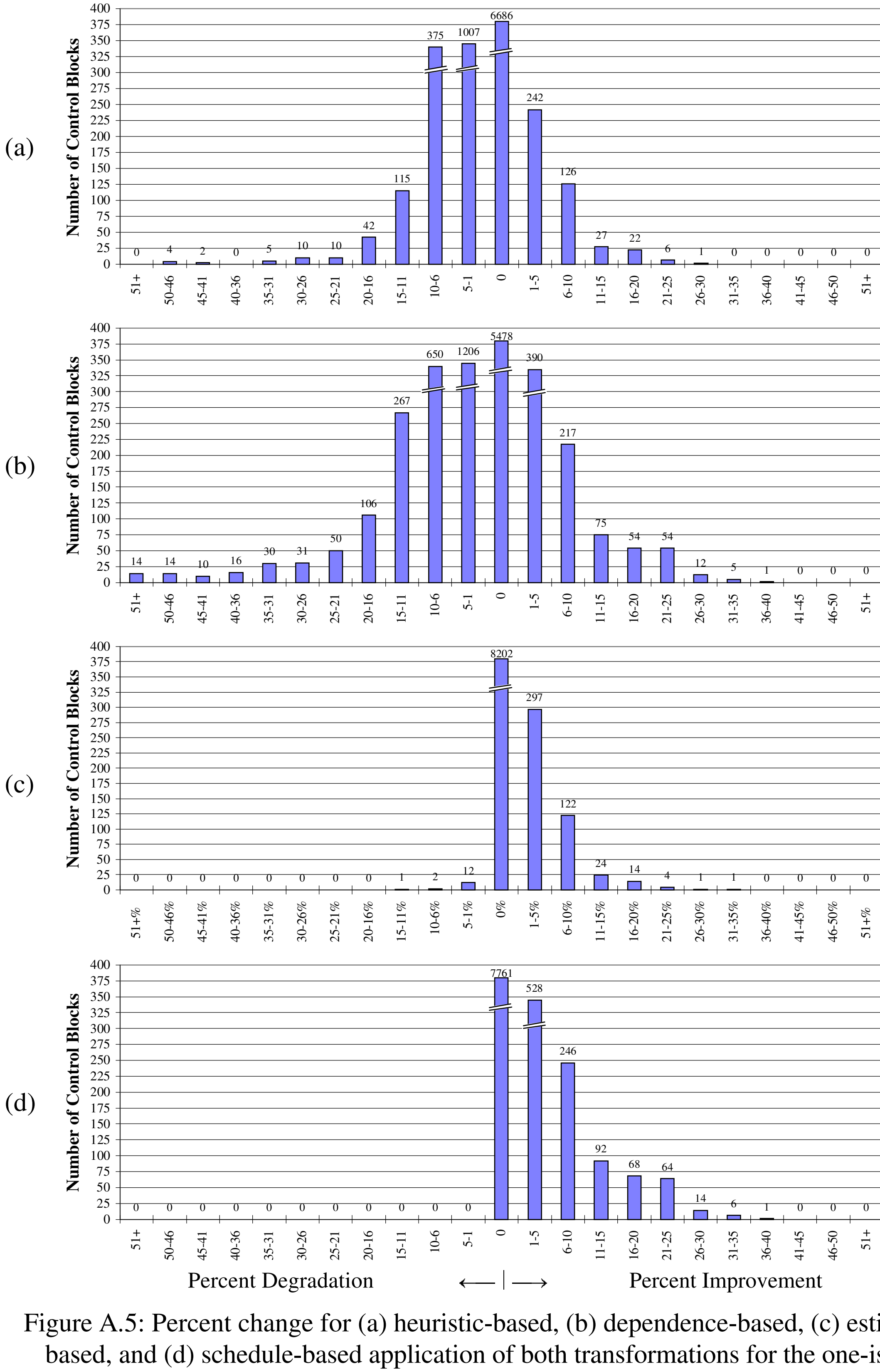

Figure A.5: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the one-issue processor configuration.

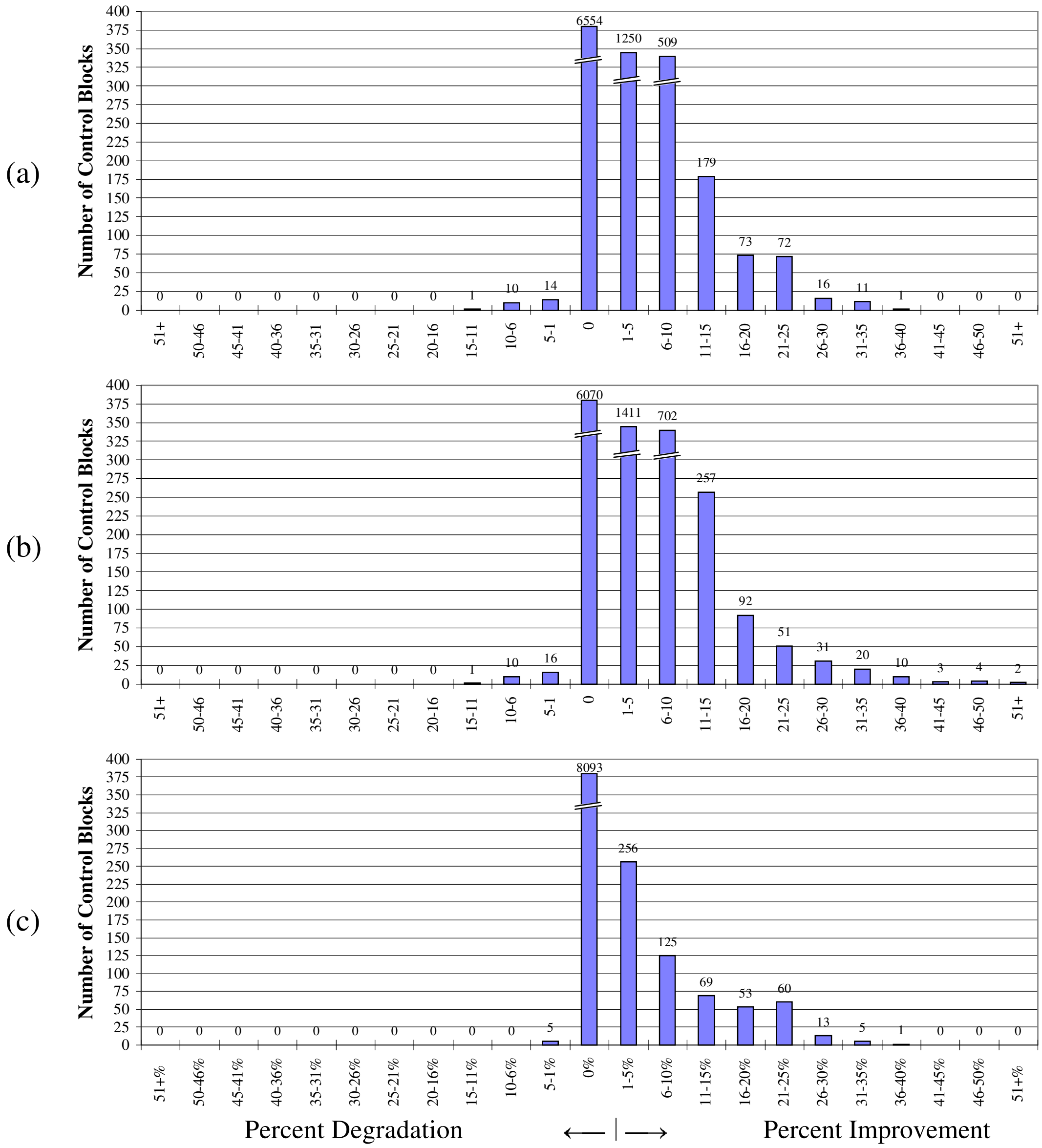

Figure A.6: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the one-issue processor configuration.

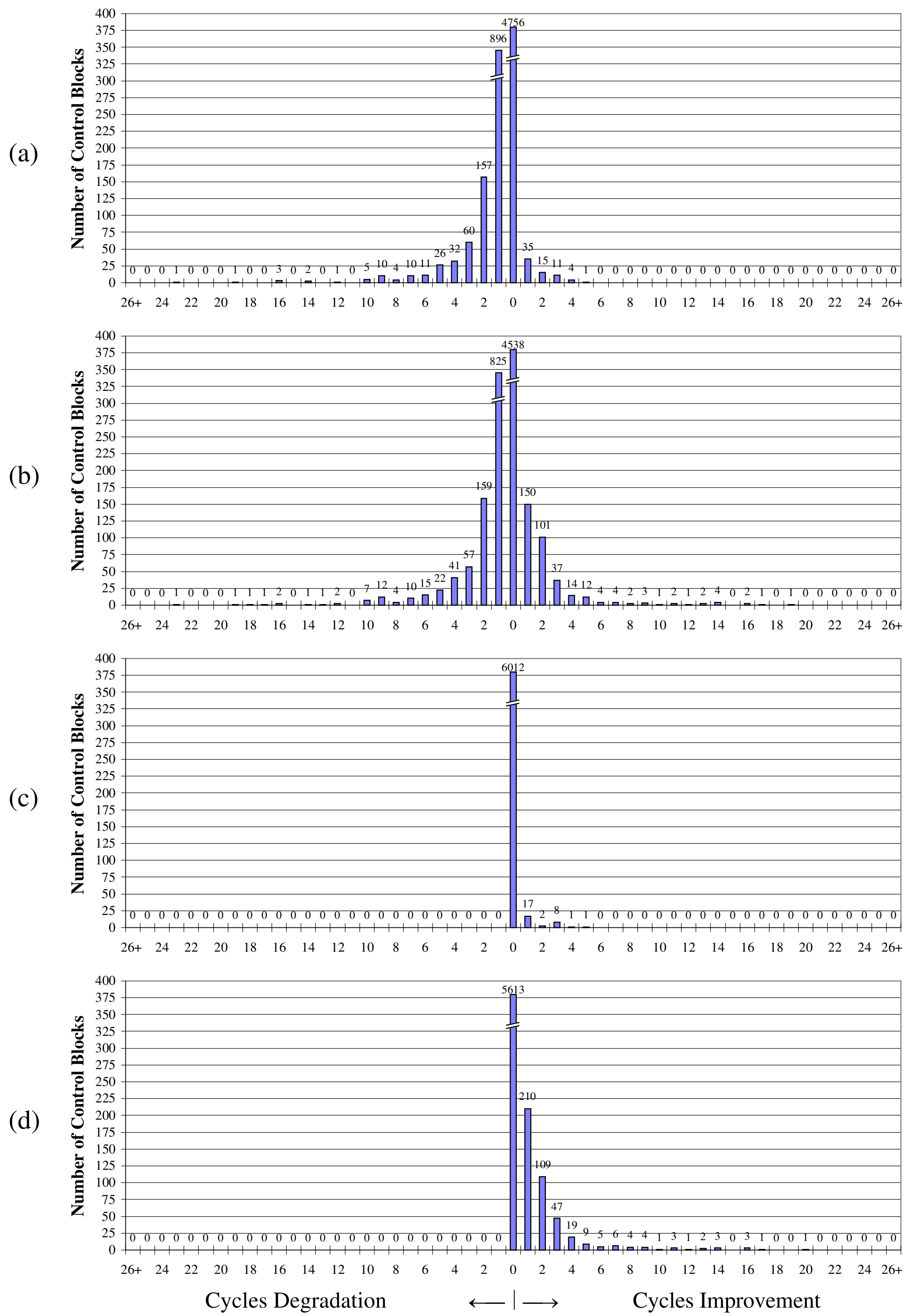

Figure A.7: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the one-issue processor configuration.

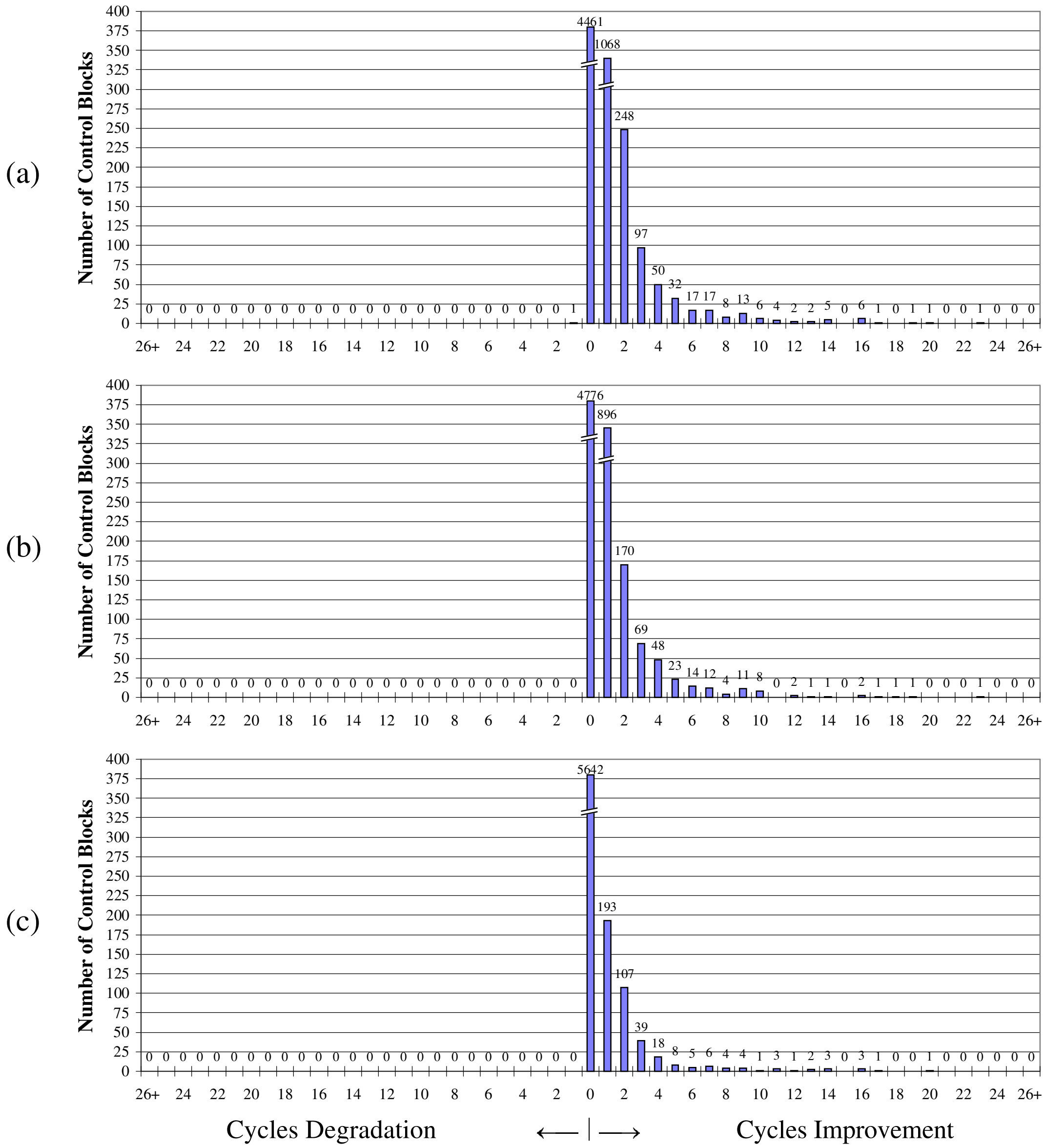

Figure A.8: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the one-issue processor configuration.

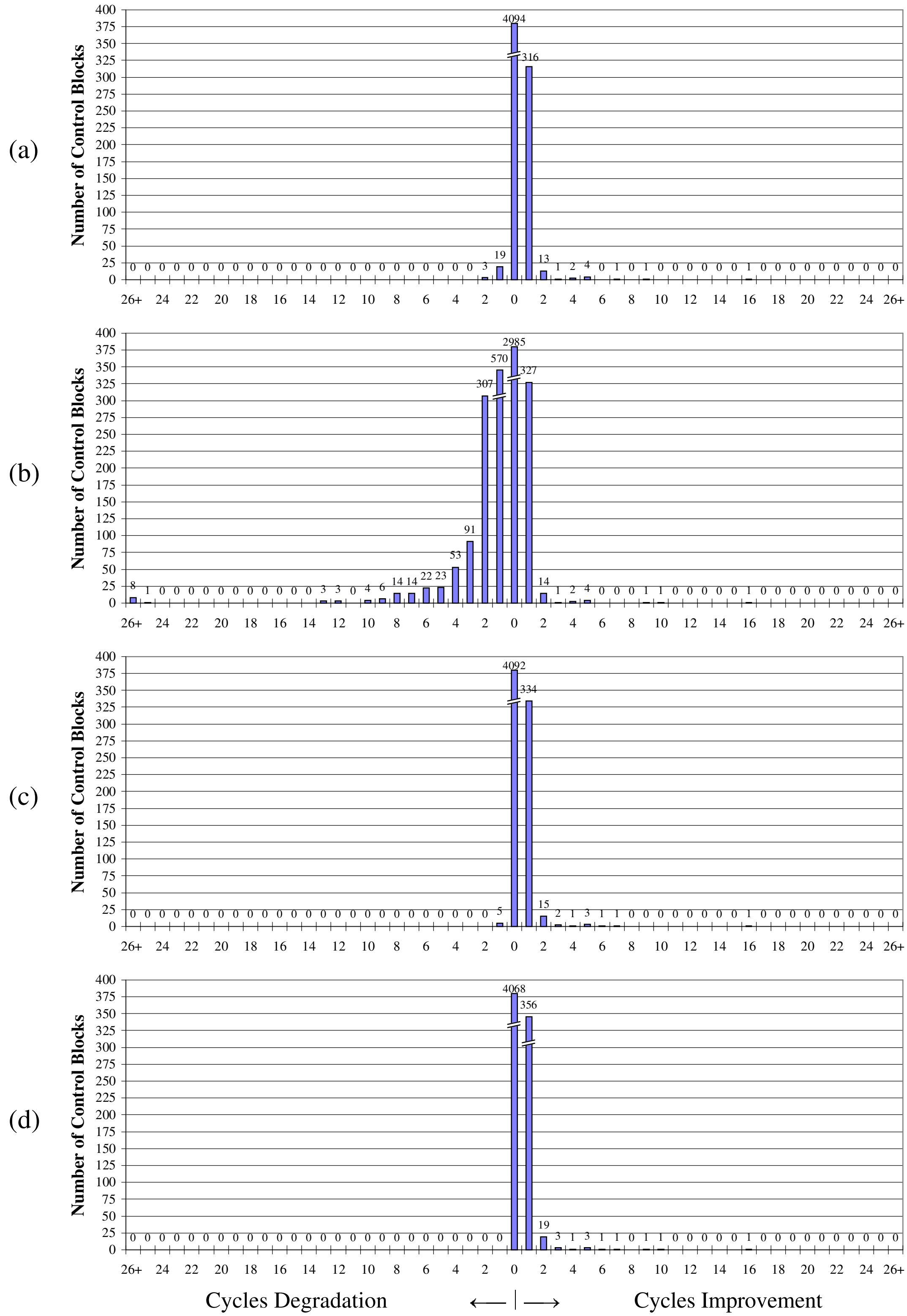

Figure A.9: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the one-issue processor configuration.

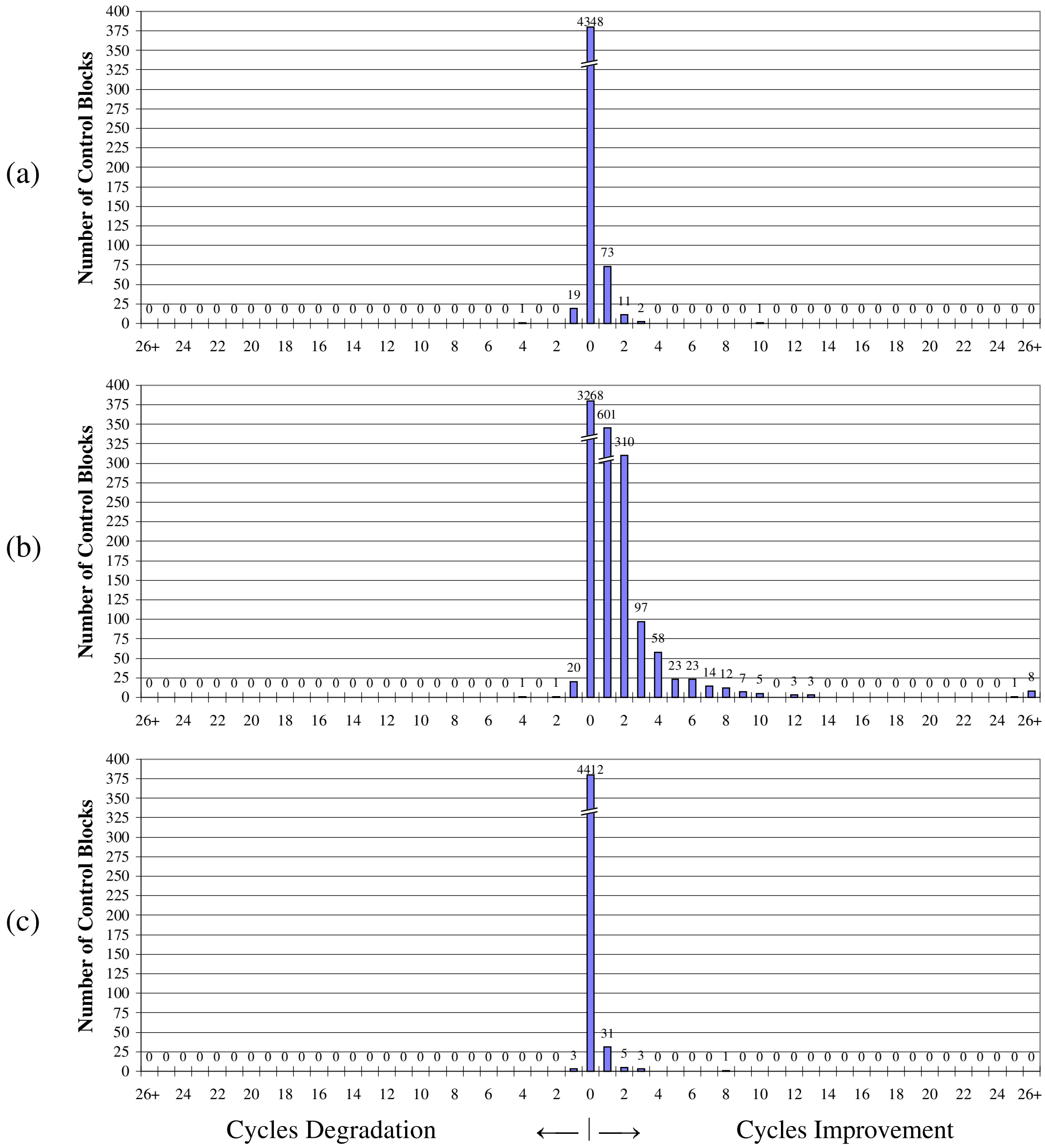

Figure A.10: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the one-issue processor configuration.

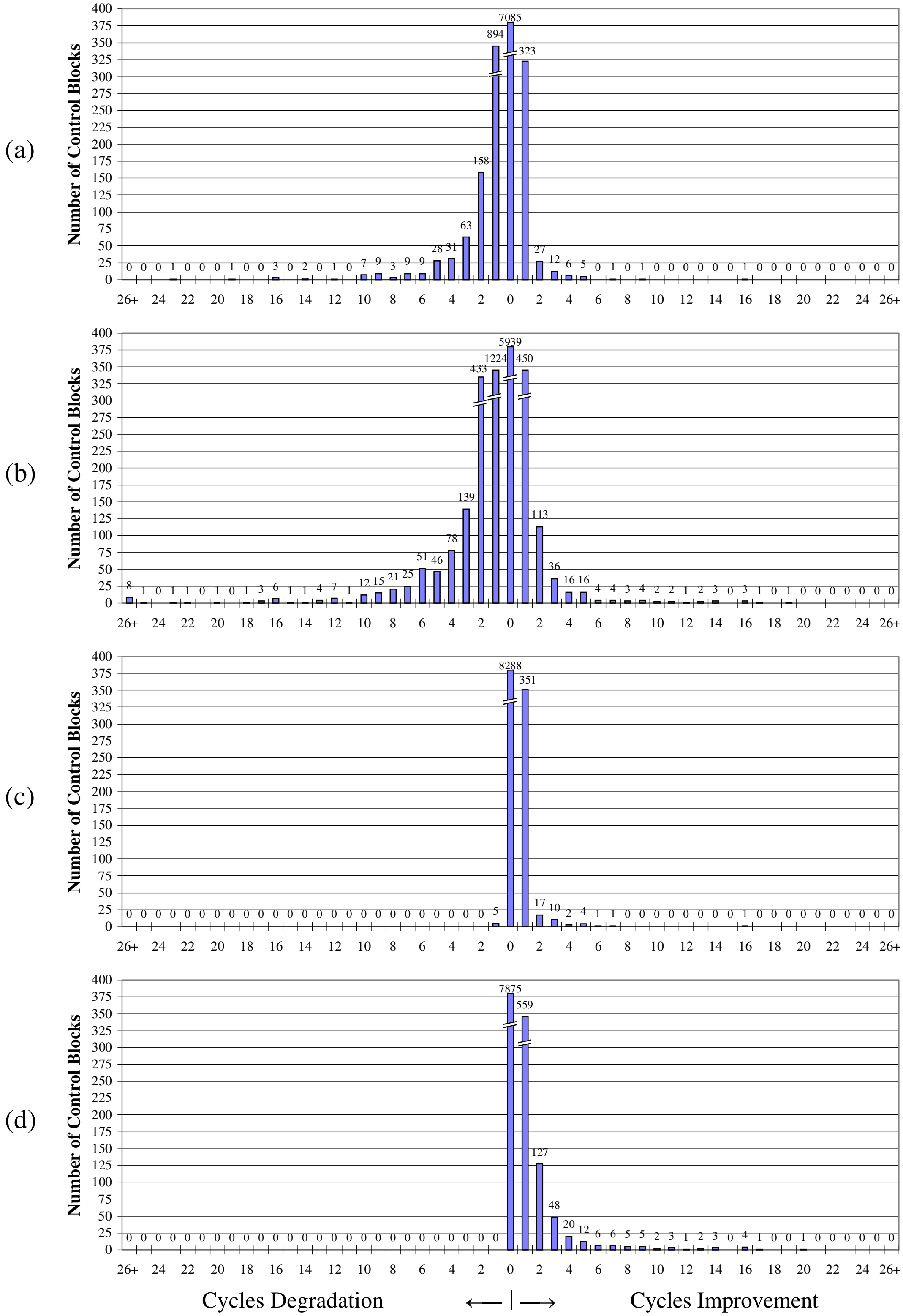

Figure A.11: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the one-issue processor configuration.

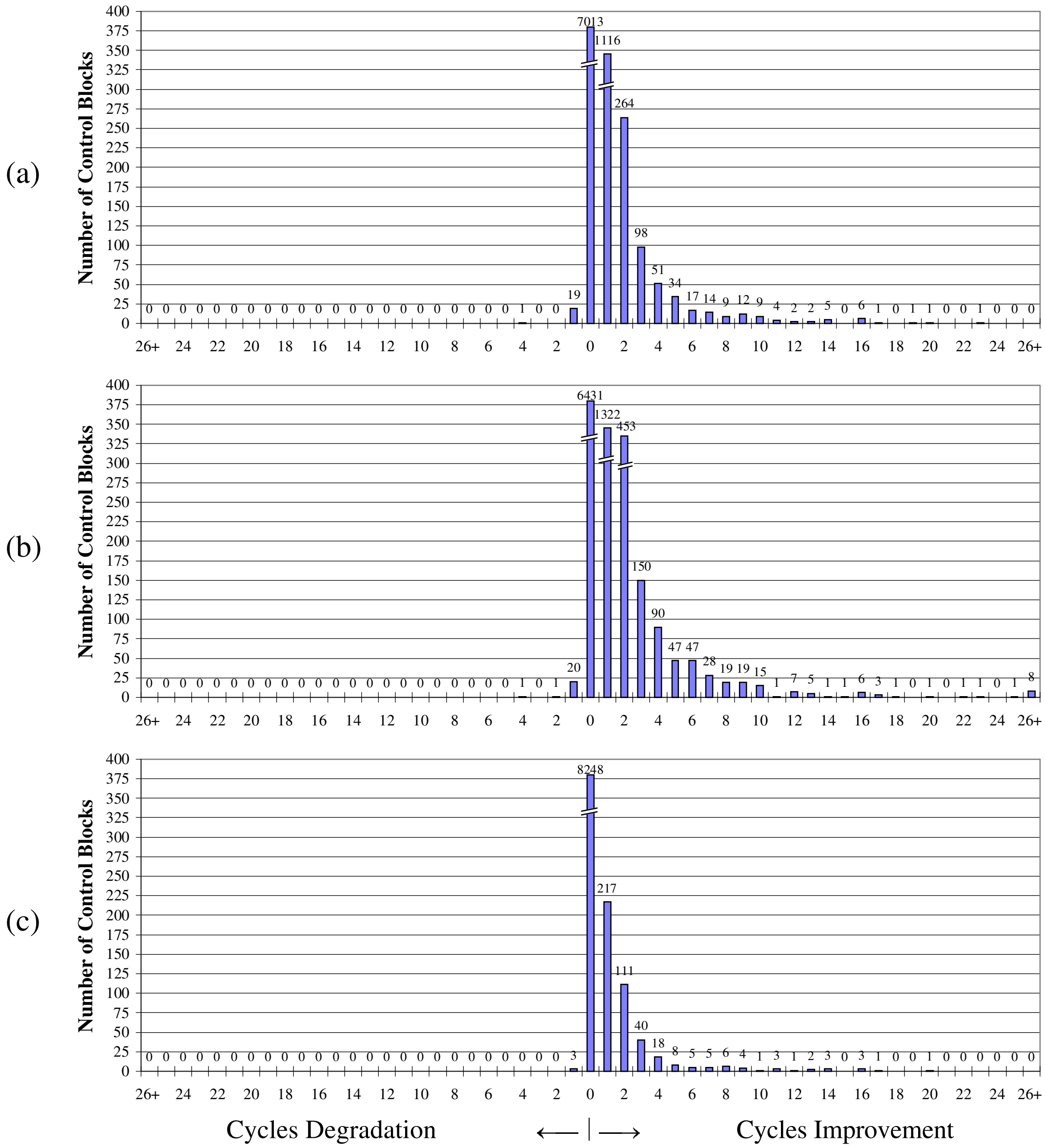

Figure A.12: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the one-issue processor configuration.

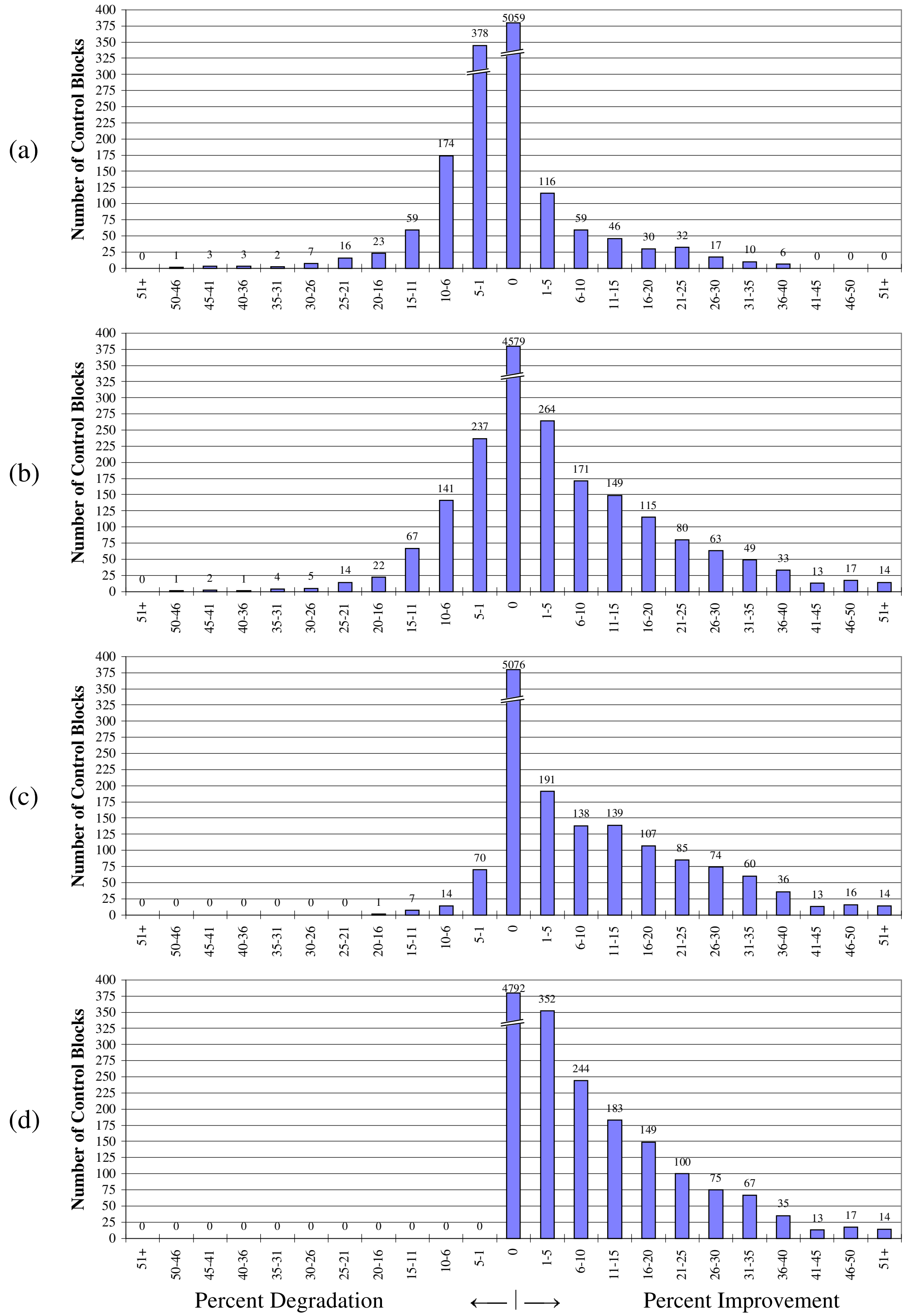

Figure A.13: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the two-issue processor configuration.

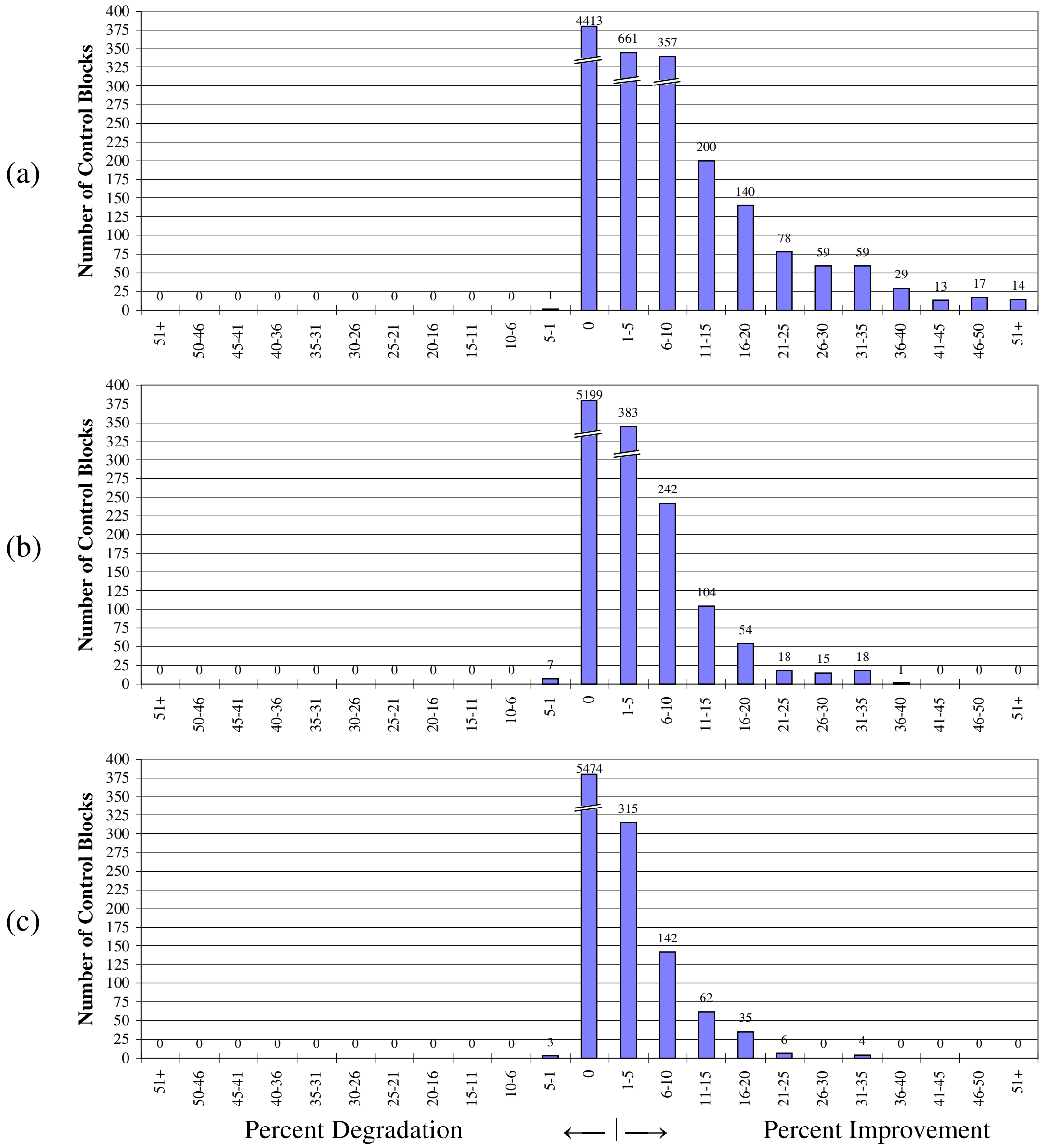

Figure A.14: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the two-issue processor configuration.

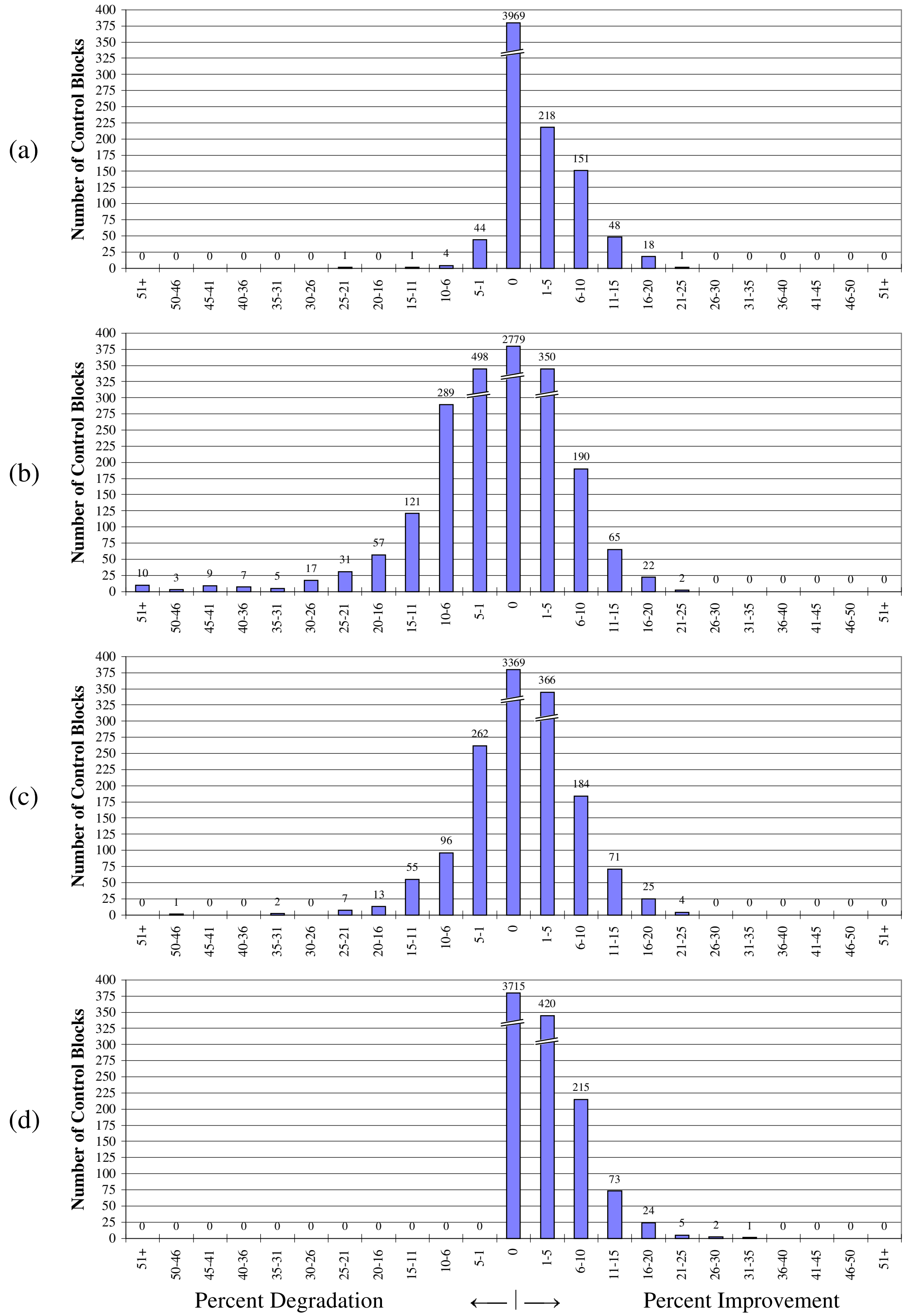

Figure A.15: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the two-issue processor configuration.

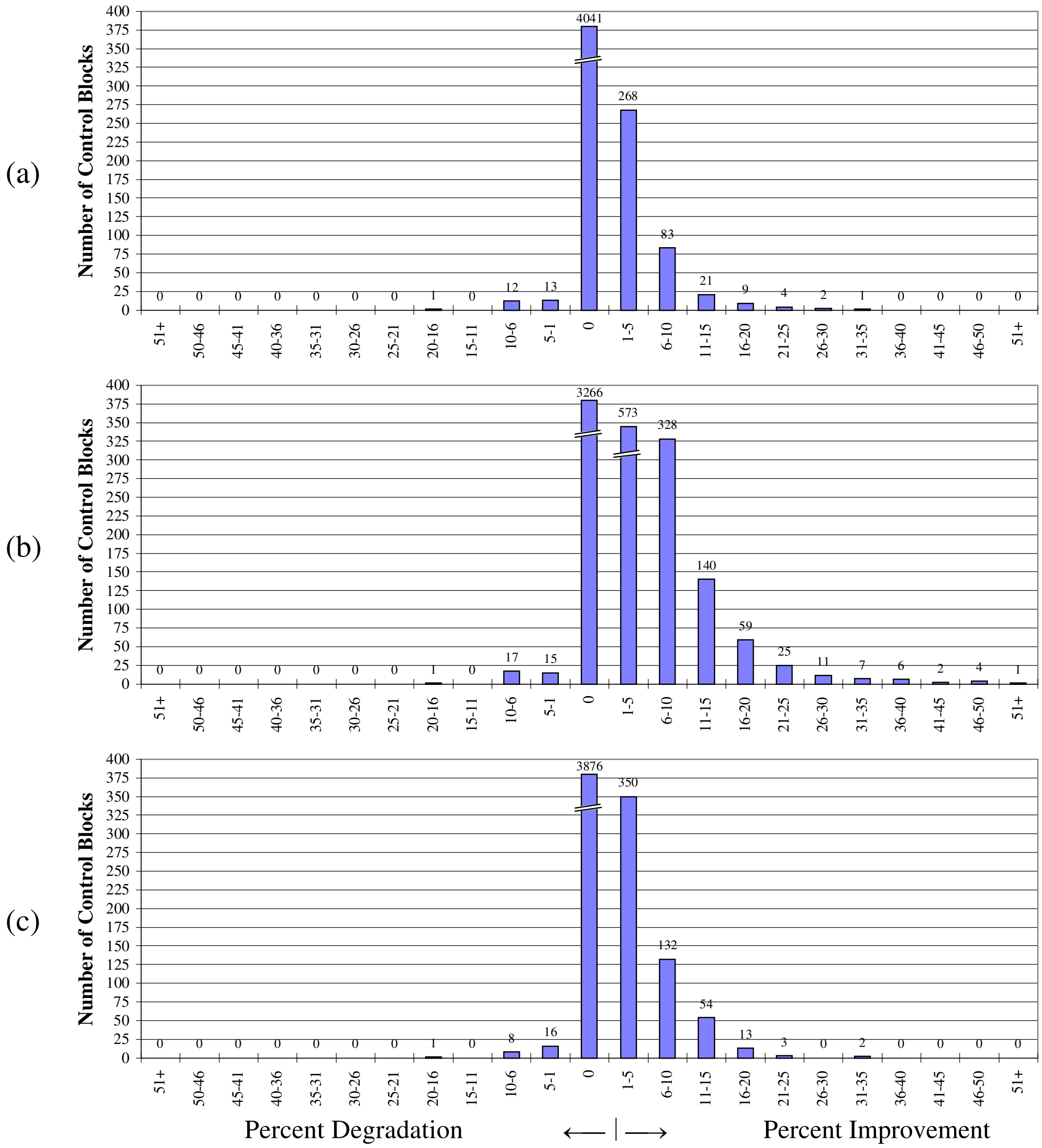

Figure A.16: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the two-issue processor configuration.

(a)

(b)

(c)

(d)

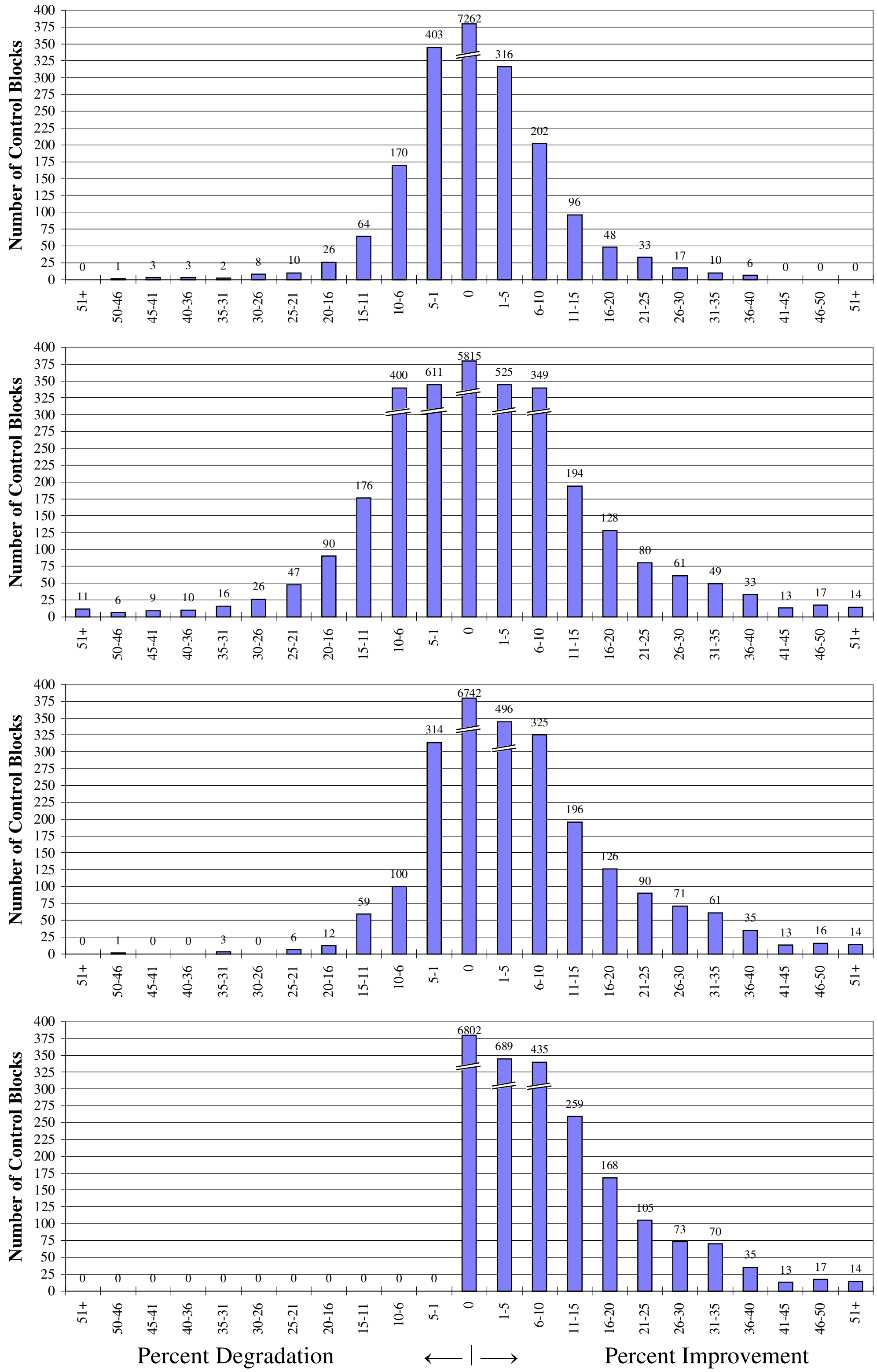

Figure A.17: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the two-issue processor configuration.

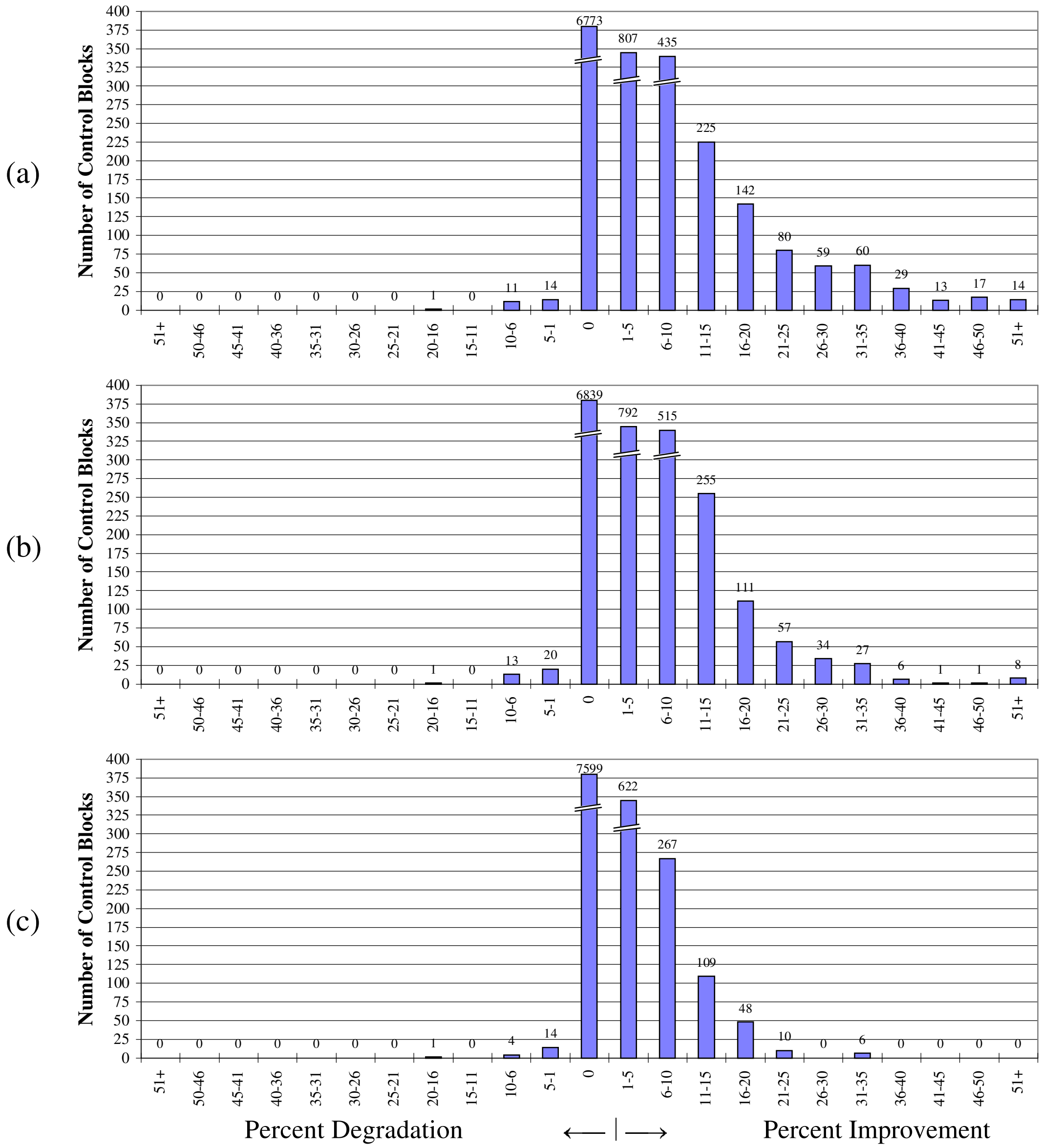

Figure A.18: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the two-issue processor configuration.

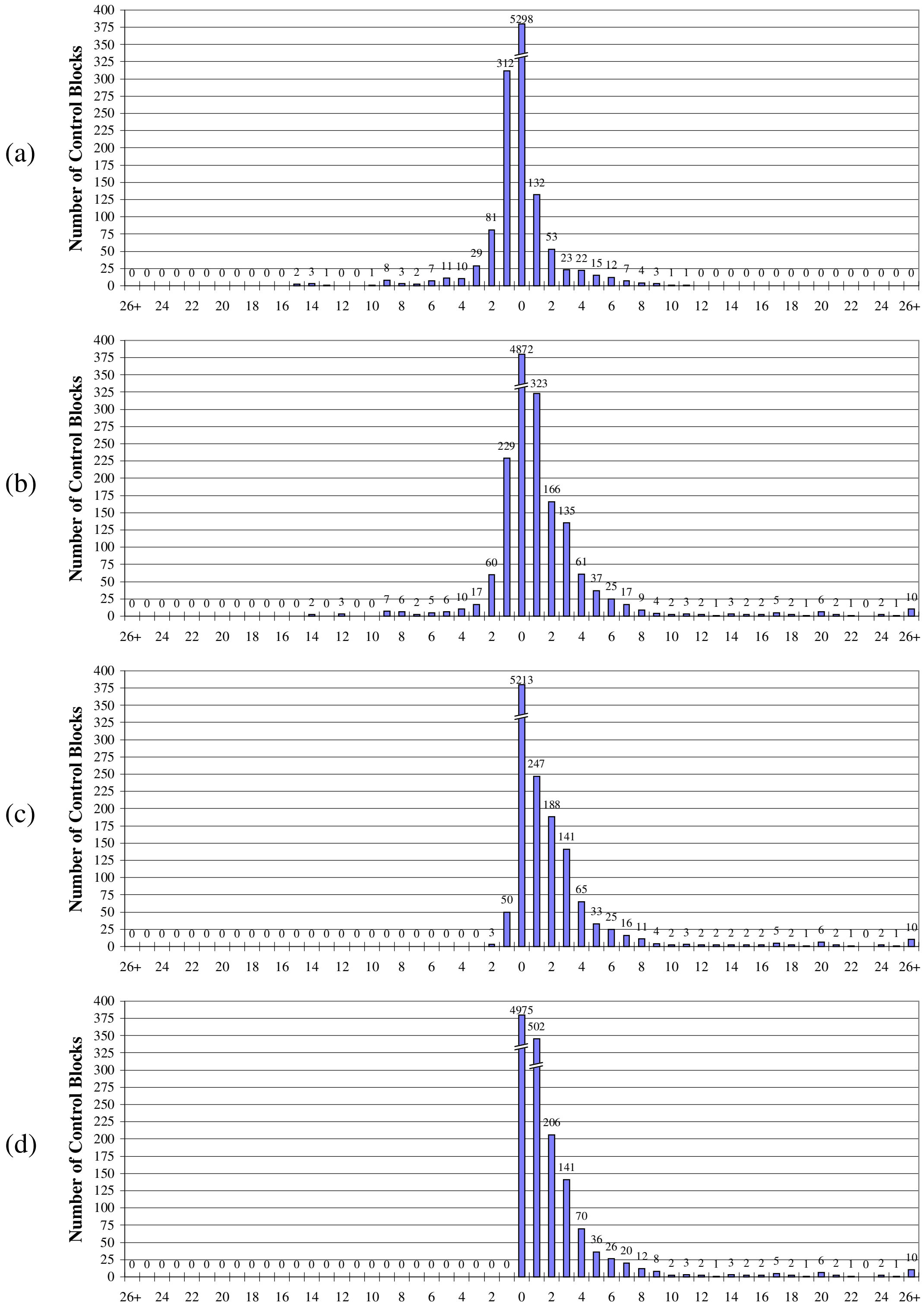

Figure A.19: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the two-issue processor configuration.

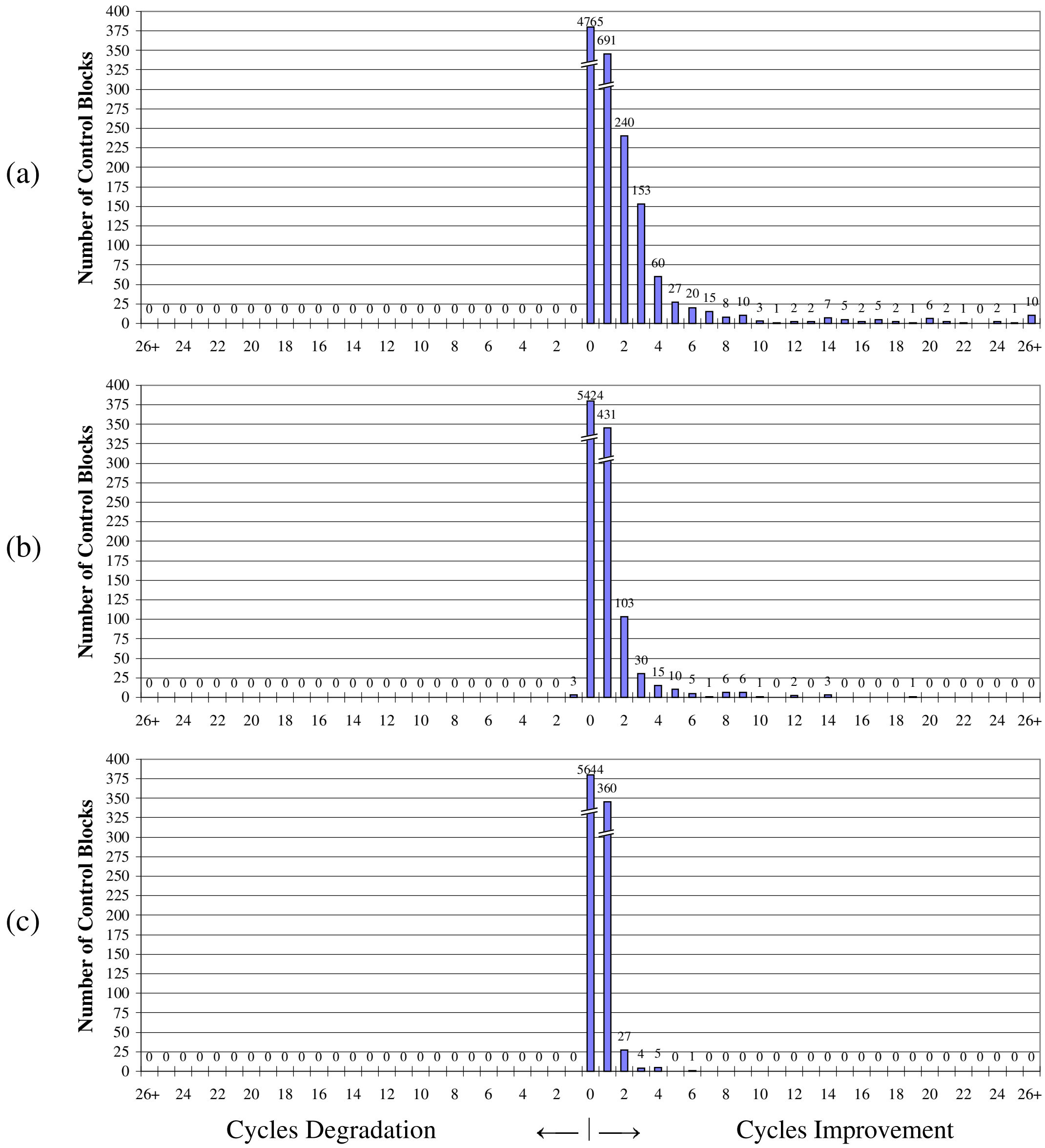

Figure A.20: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the two-issue processor configuration.

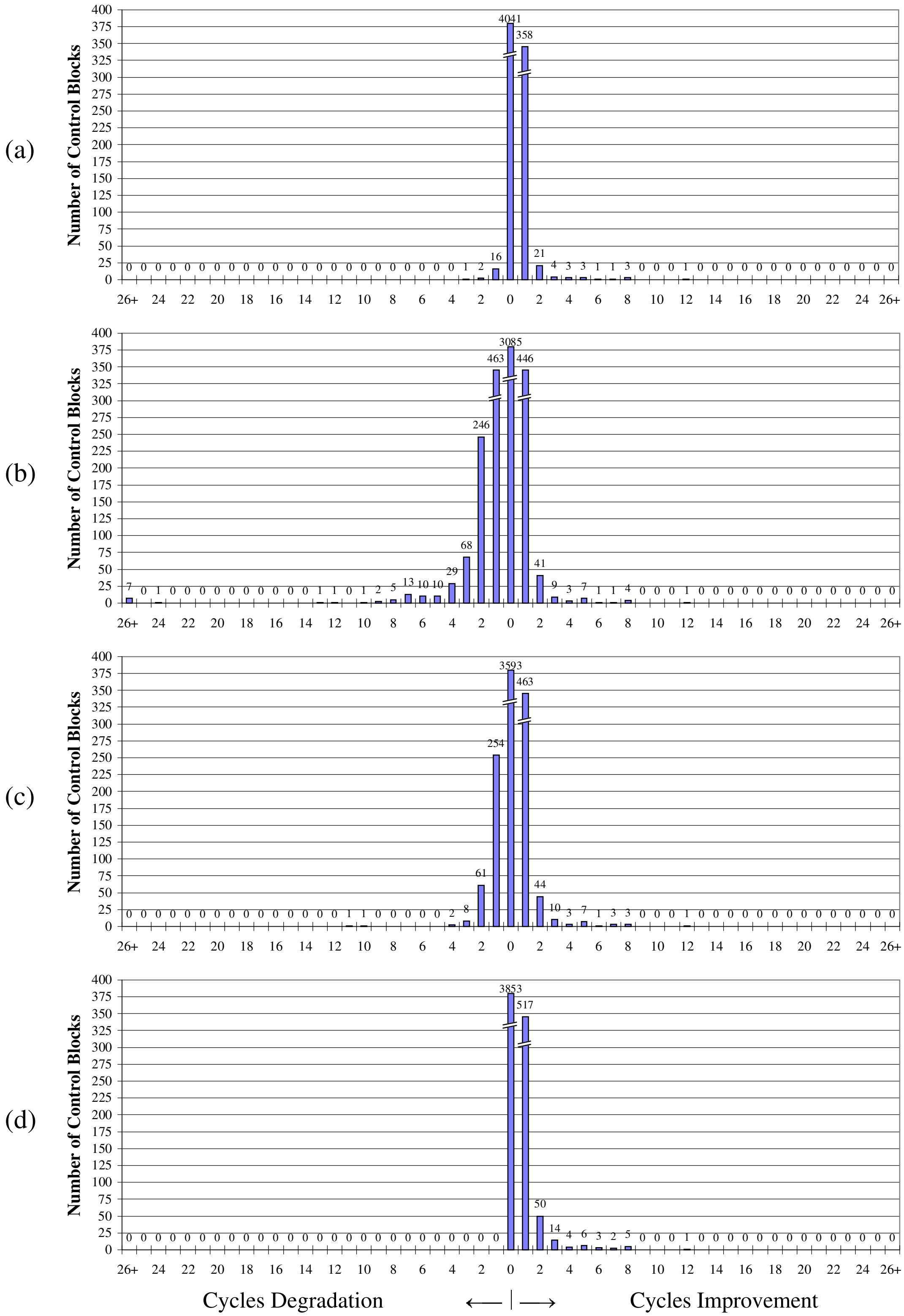

Figure A.21: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the two-issue processor configuration.

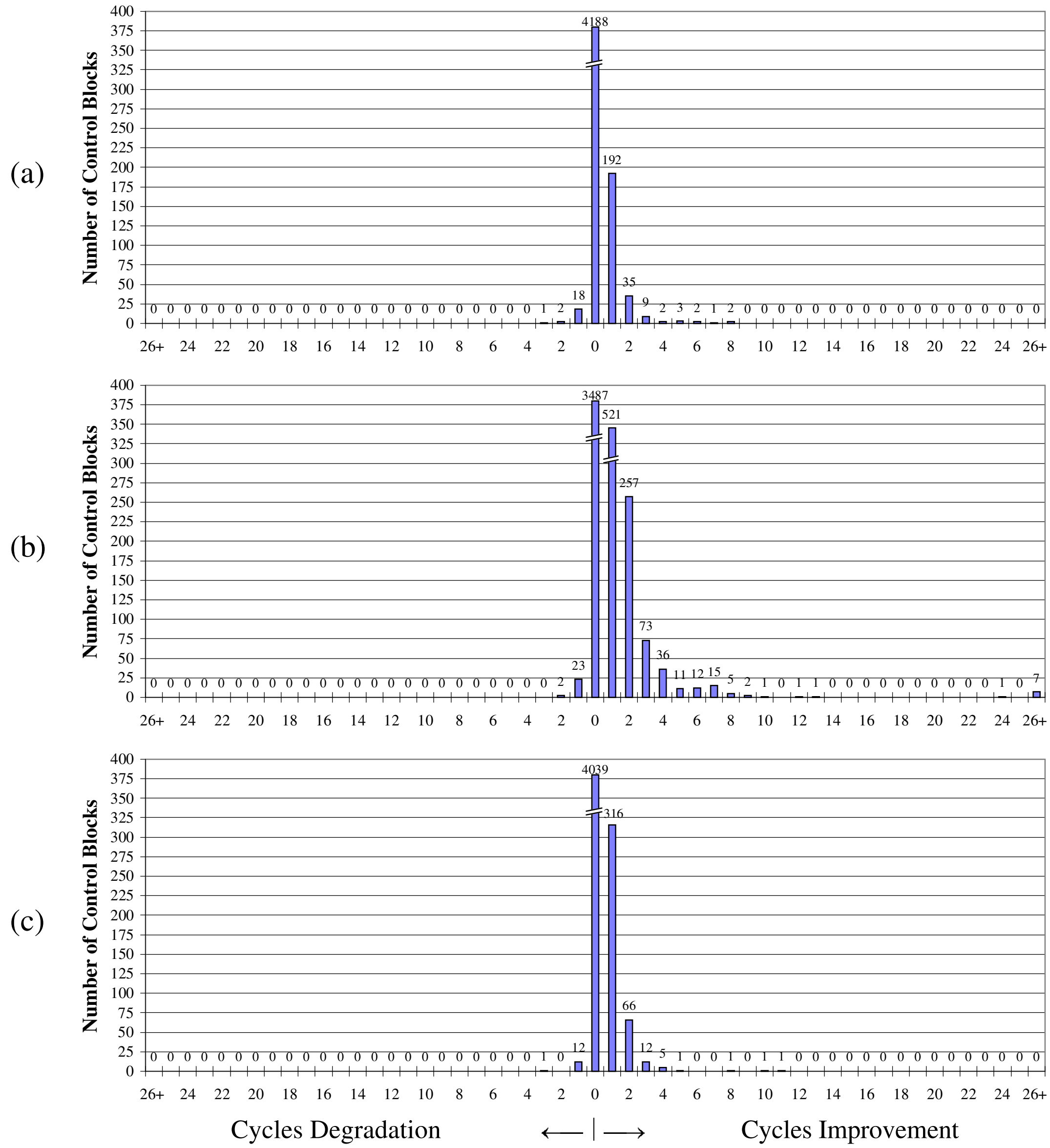

Figure A.22: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the two-issue processor configuration.

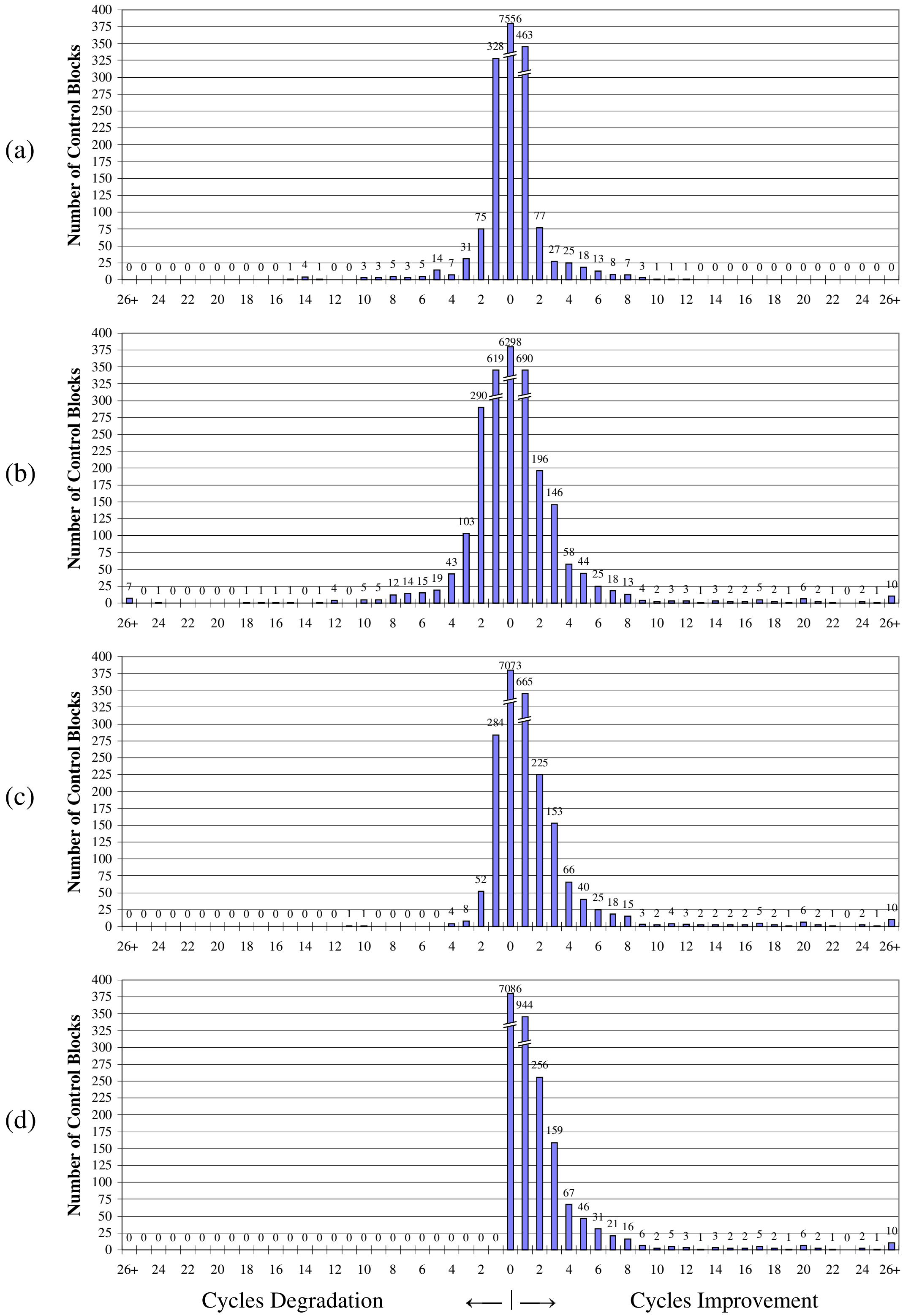

Figure A.23: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the two-issue processor configuration.

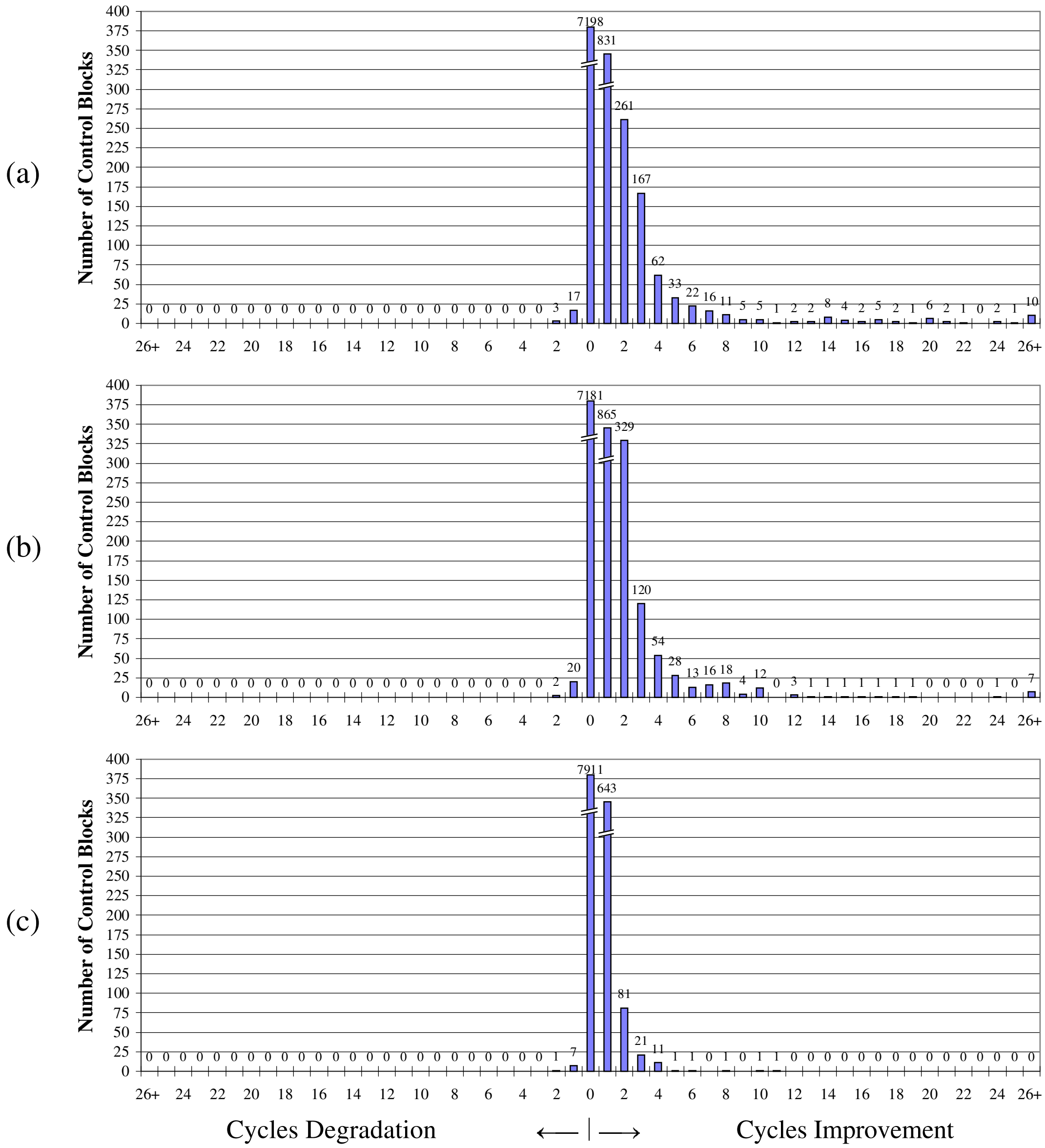

Figure A.24: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the two-issue processor configuration.

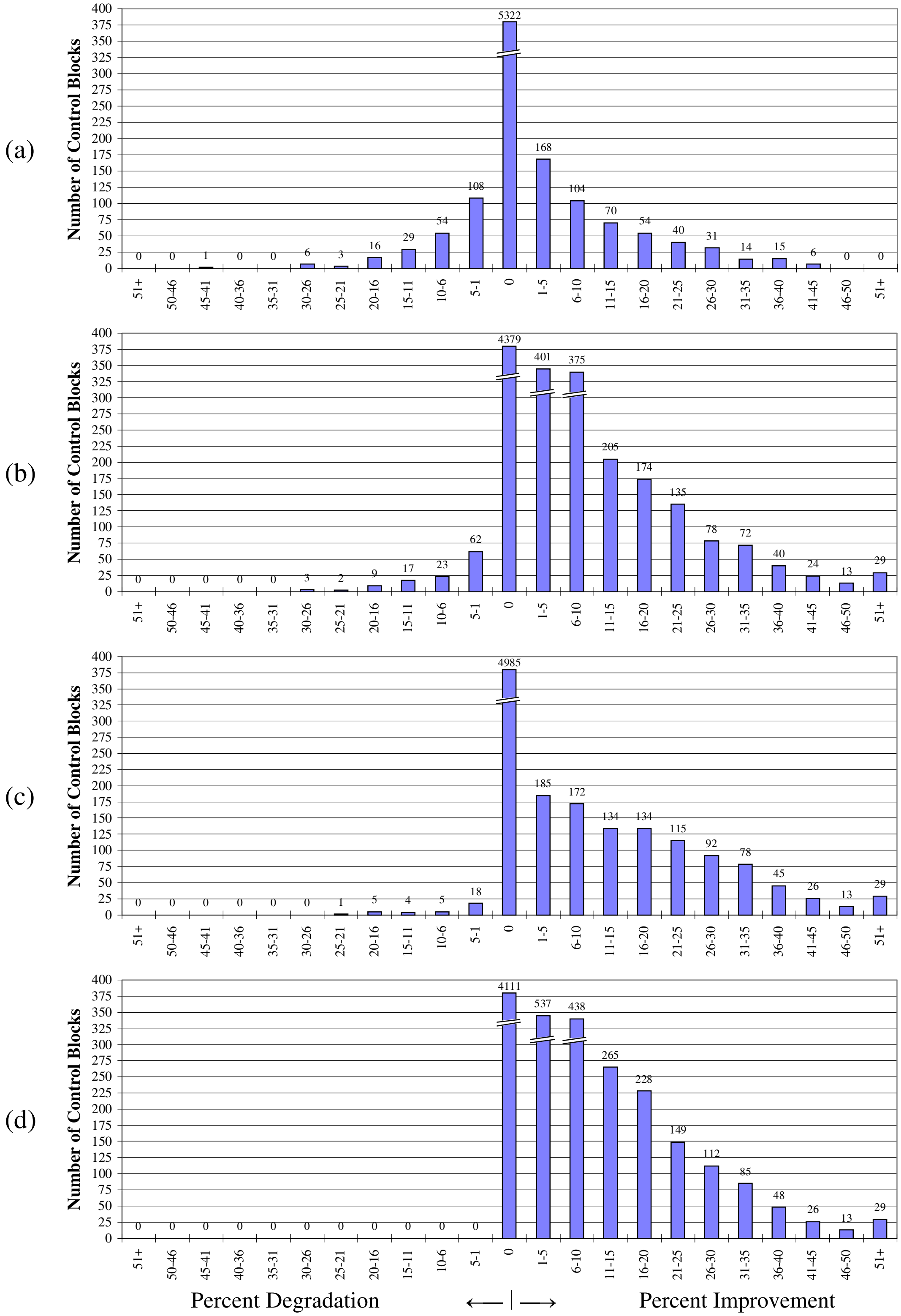

Figure A.25: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the four-issue processor configuration.

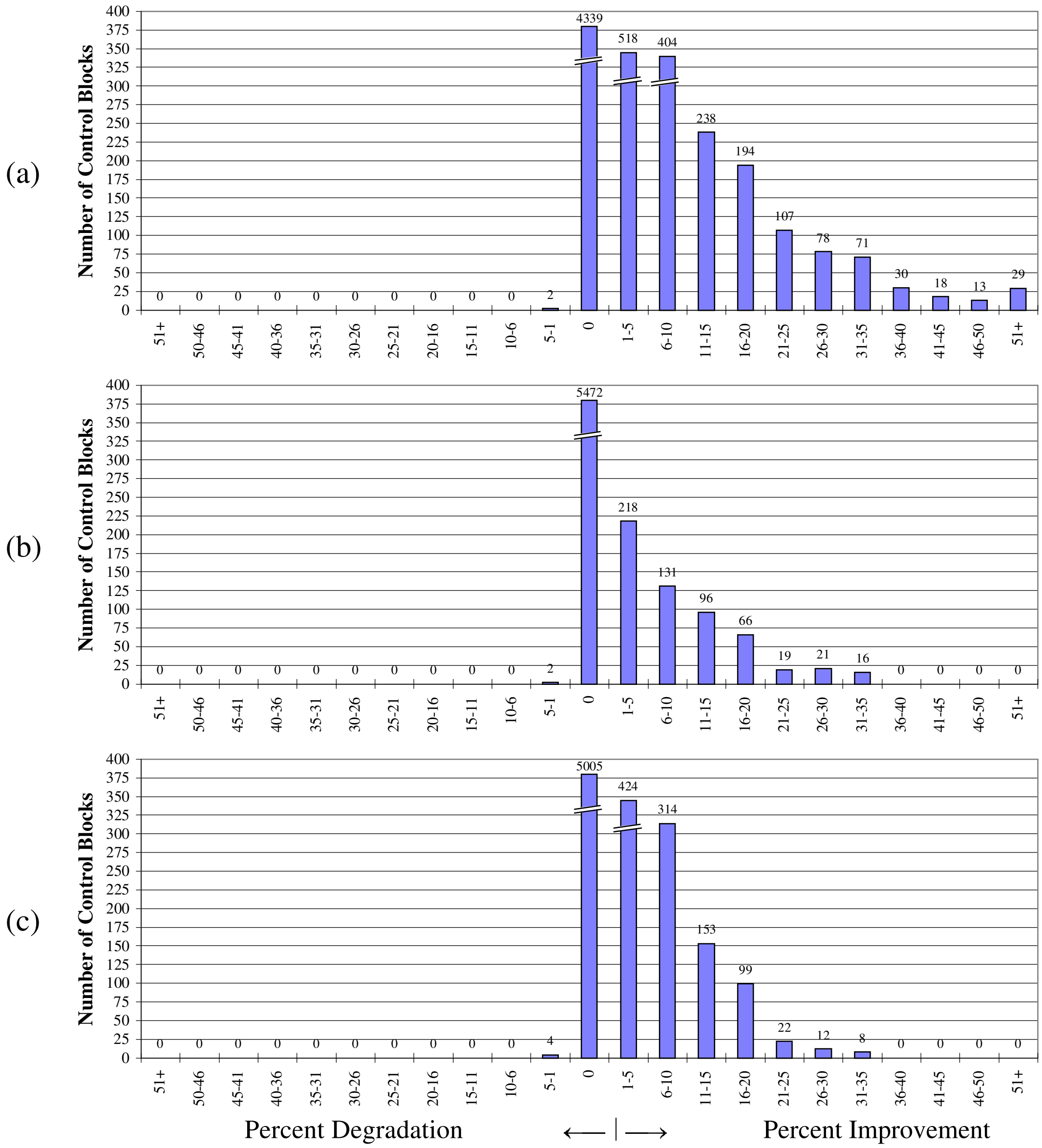

Figure A.26: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the four-issue processor configuration.

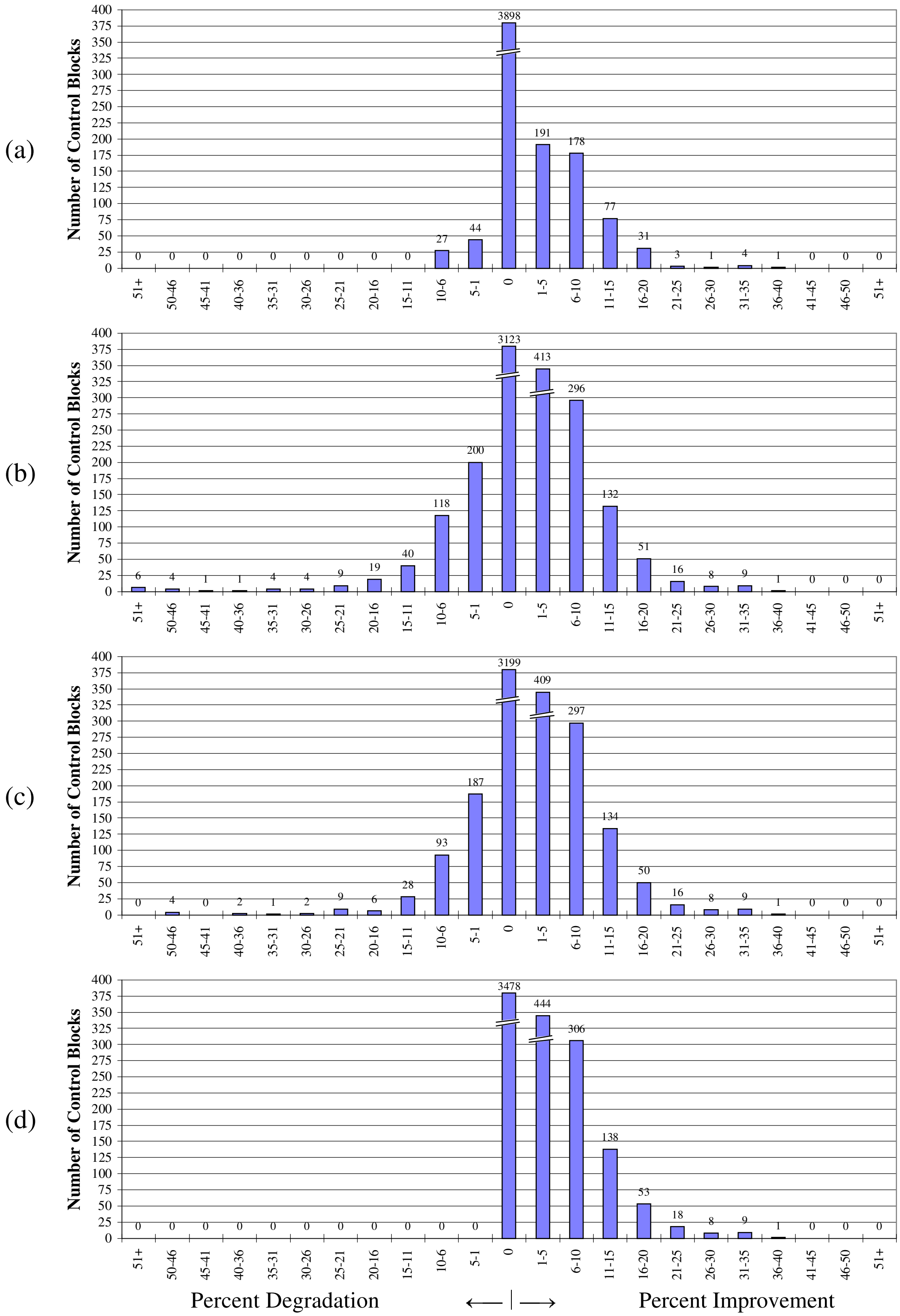

Figure A.27: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the four-issue processor configuration.

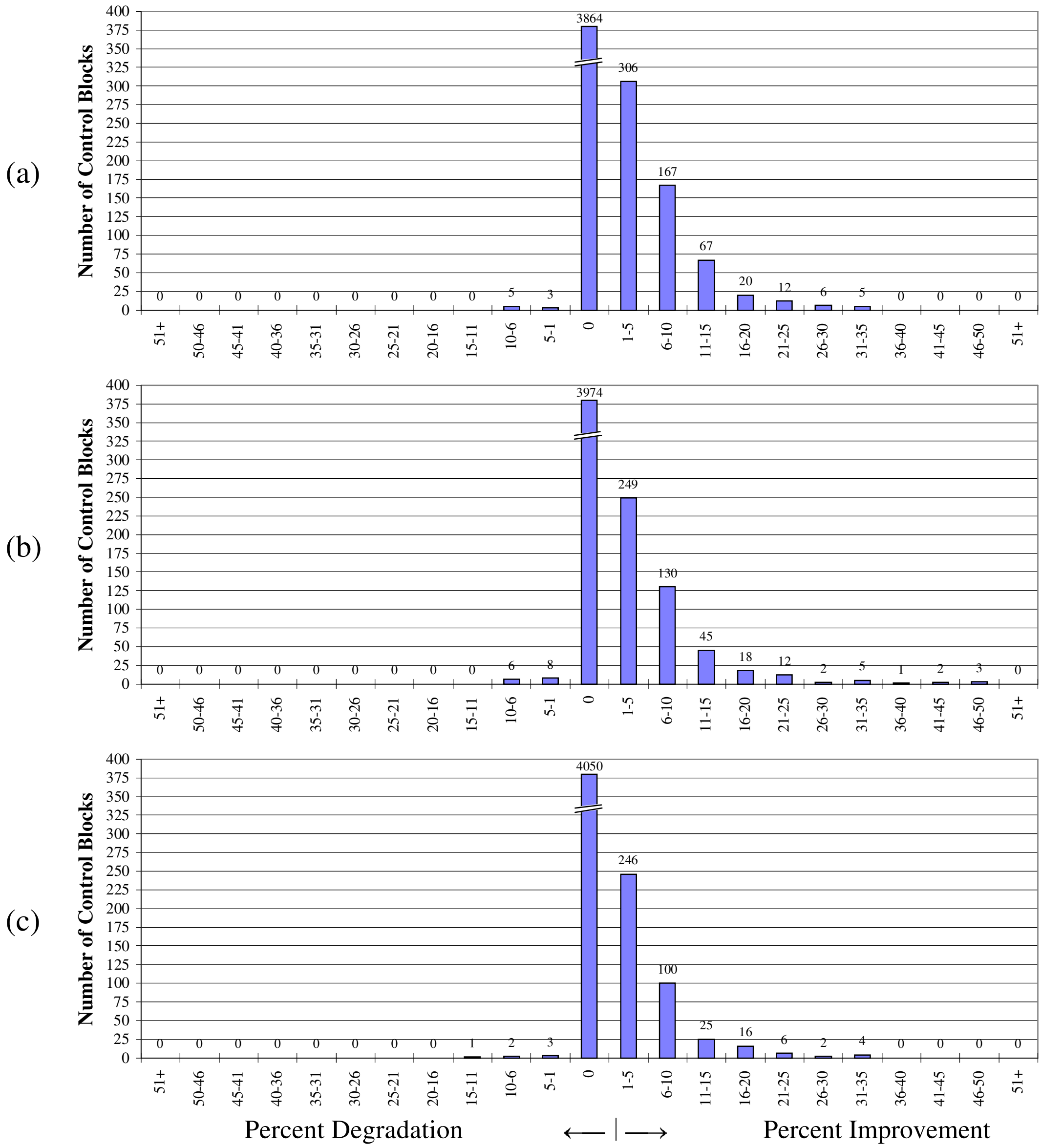

Figure A.28: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the four-issue processor configuration.

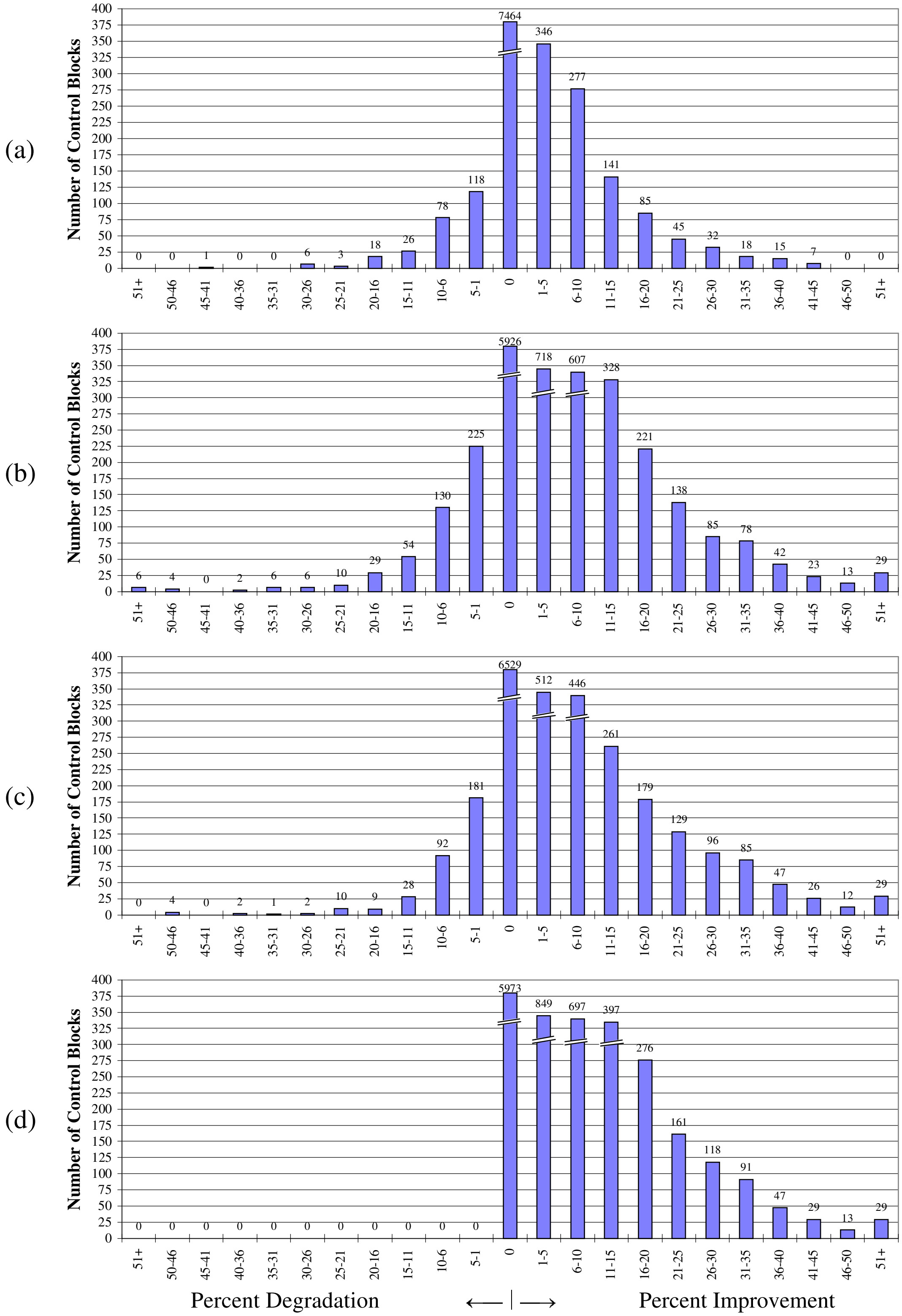

Figure A.29: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the four-issue processor configuration.

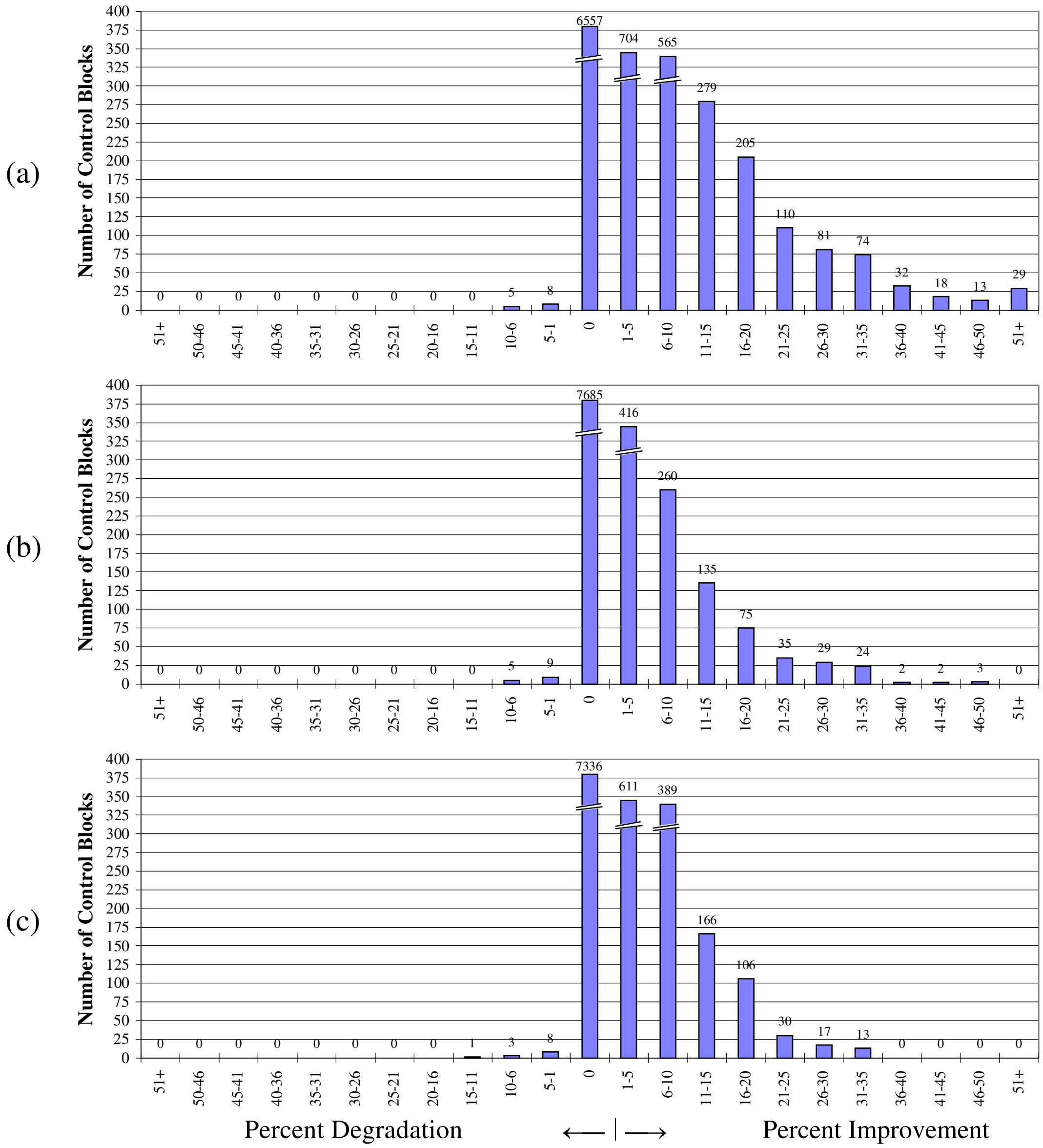

Figure A.30: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the four-issue processor configuration.

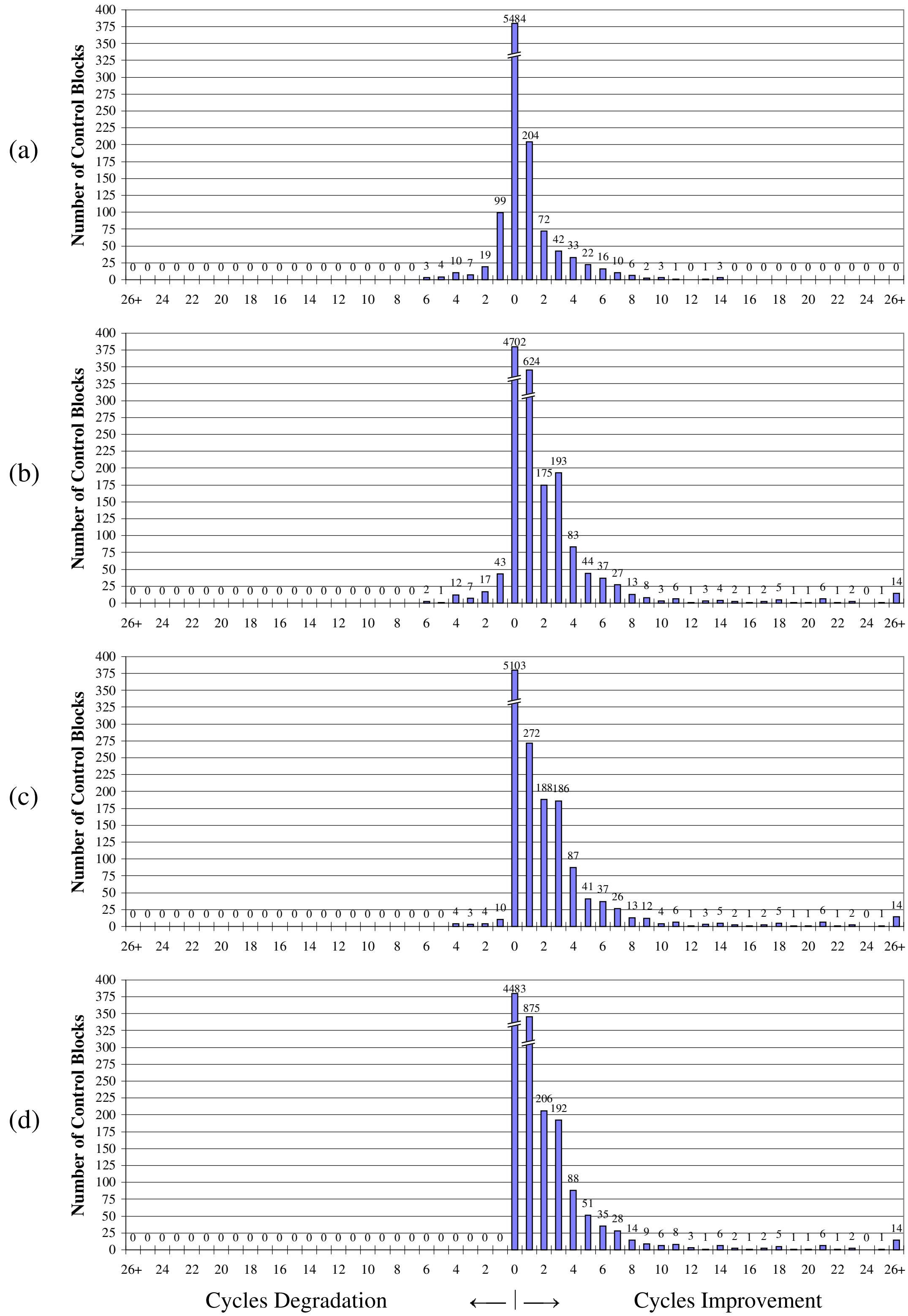

Figure A.31: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the four-issue processor configuration.

(a)

(b)

(c)

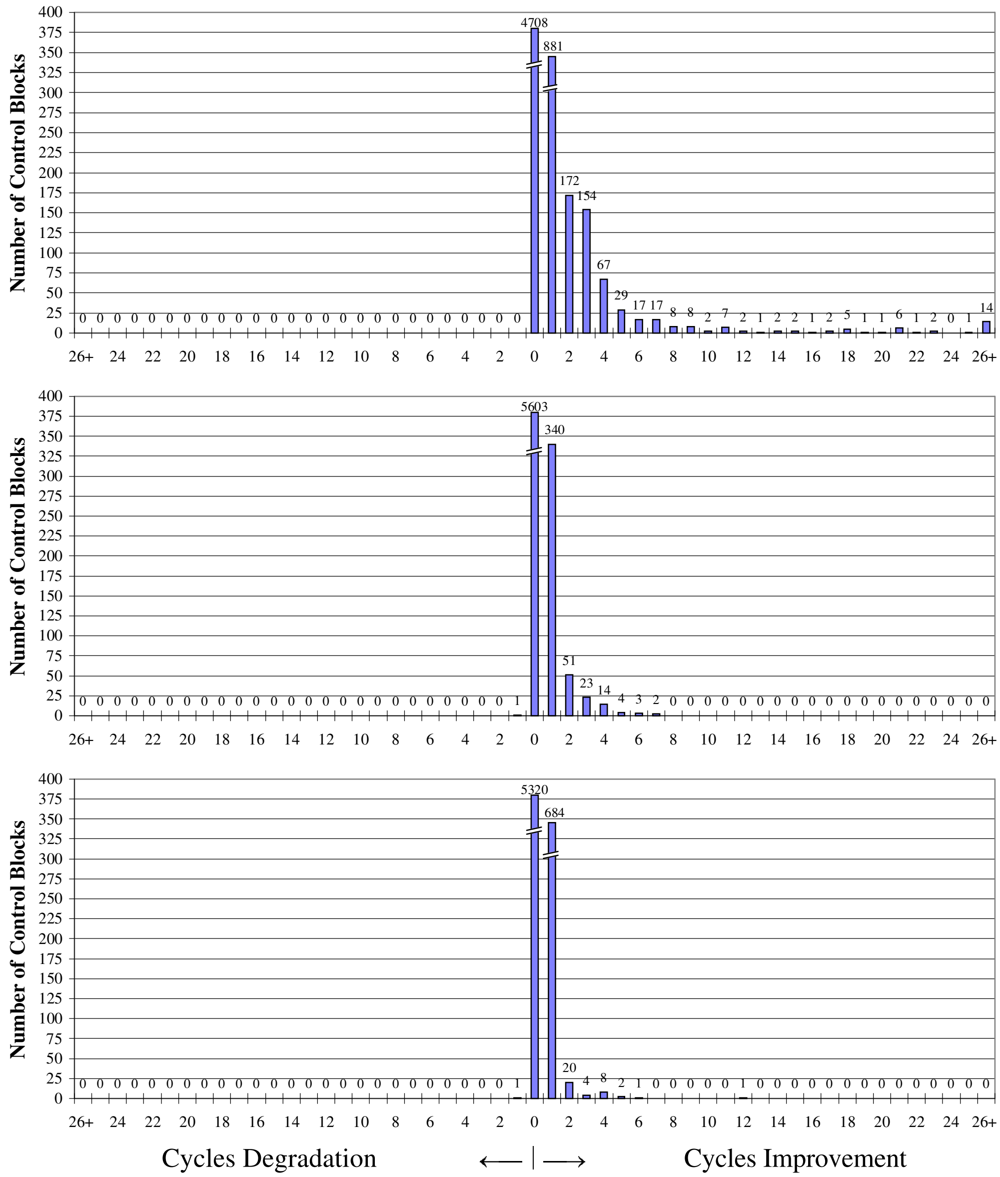

Figure A.32: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the four-issue processor configuration.

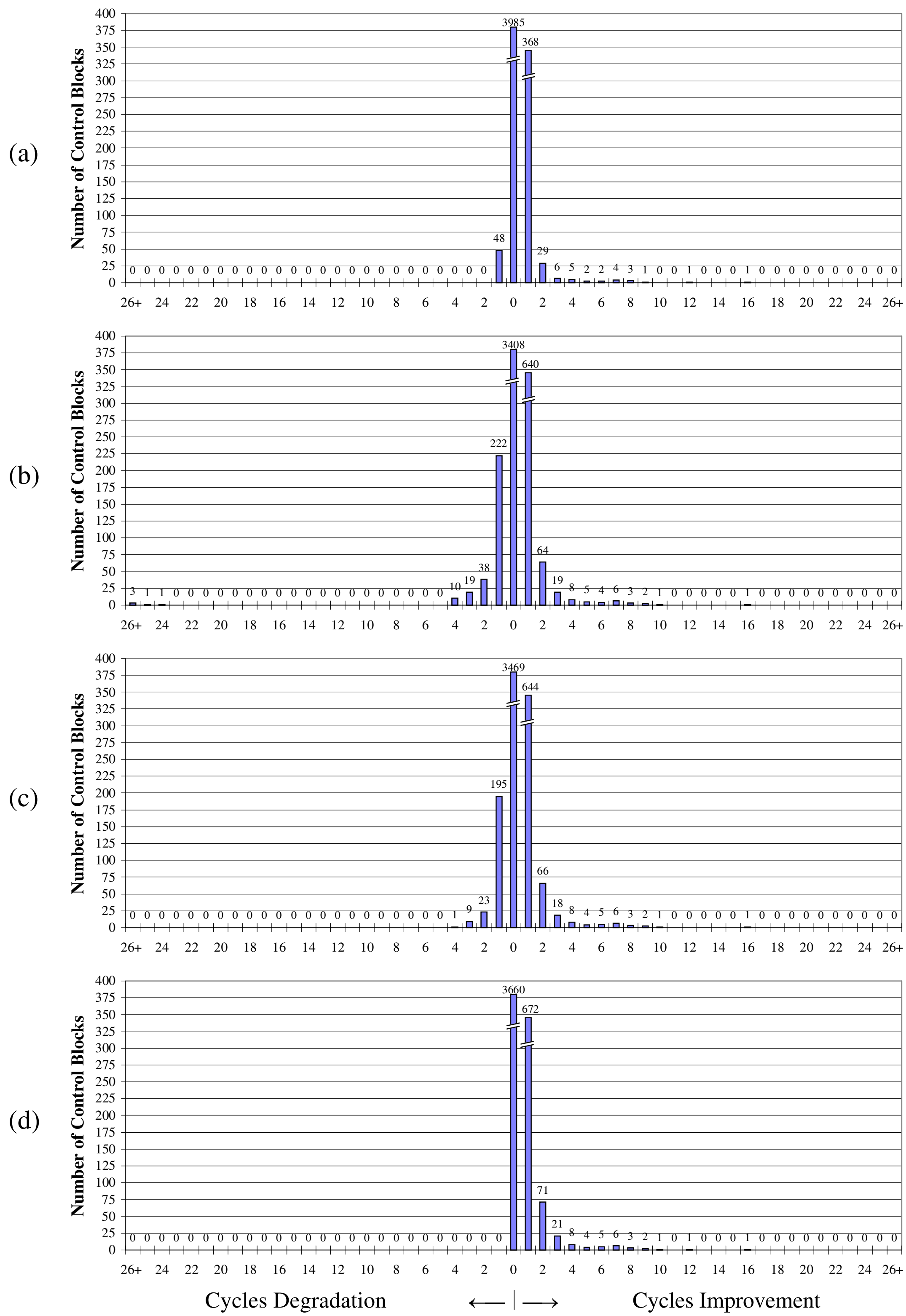

Figure A.33: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the four-issue processor configuration.

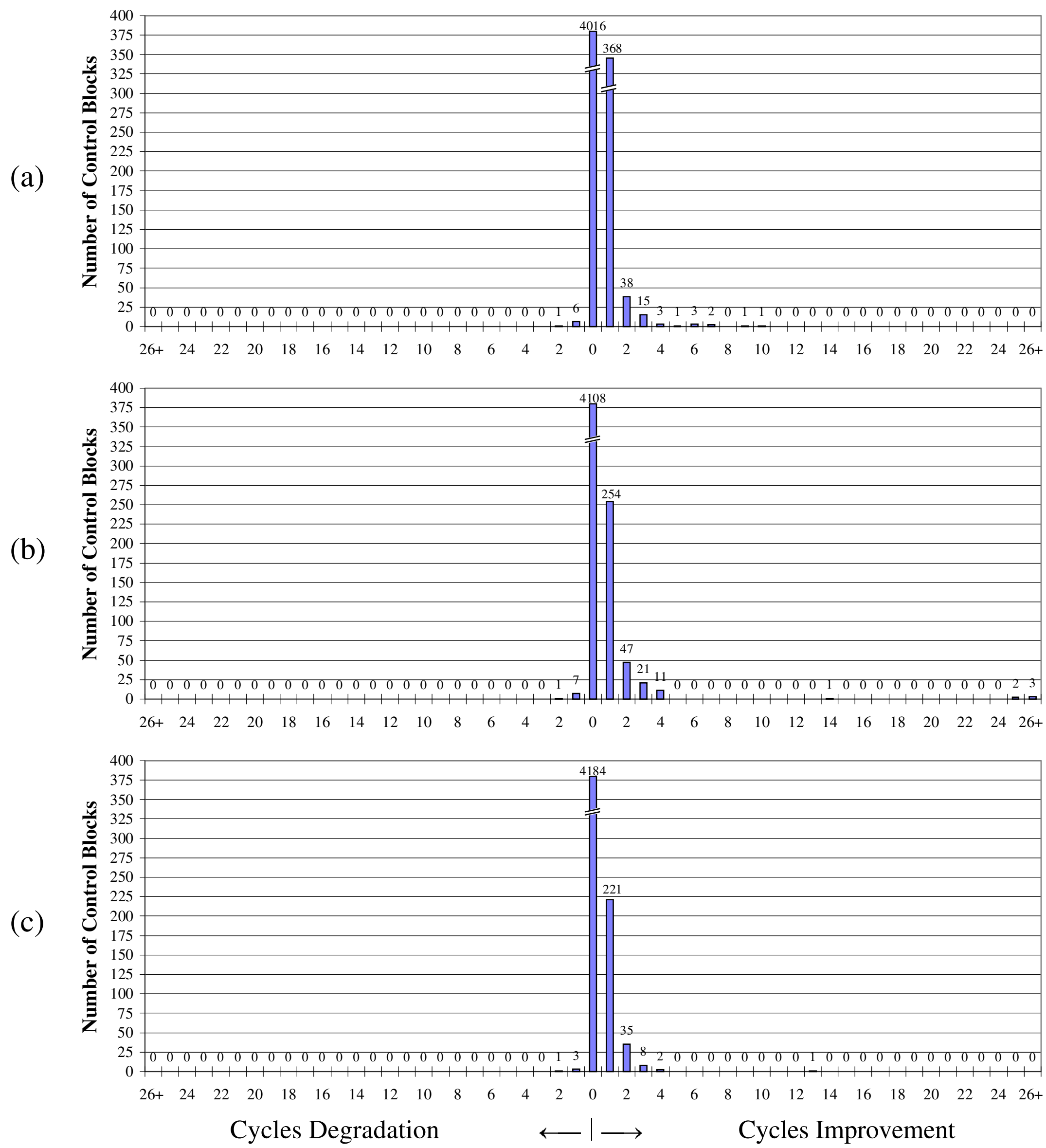

Figure A.34: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the four-issue processor configuration.

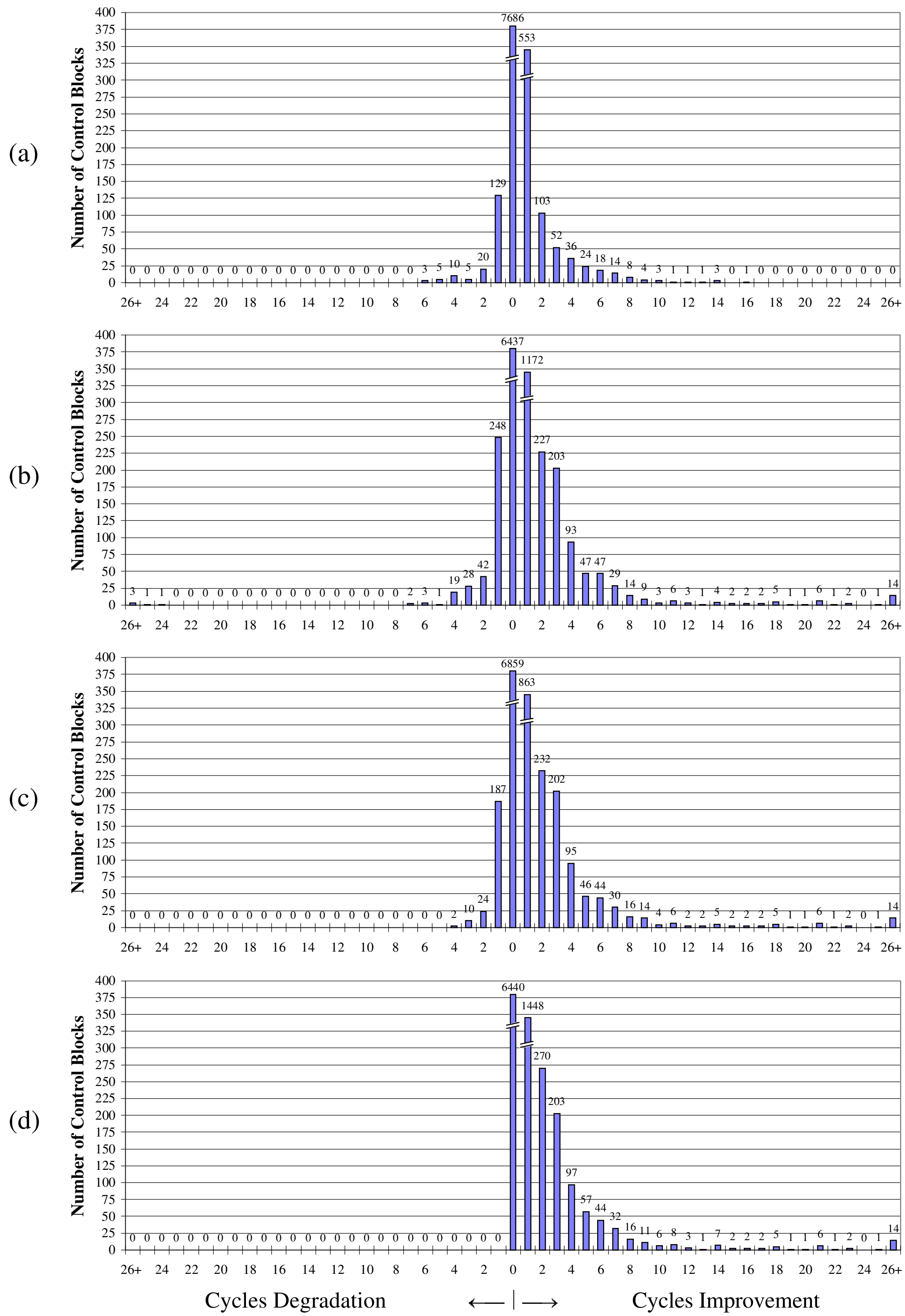

Figure A.35: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the four-issue processor configuration.

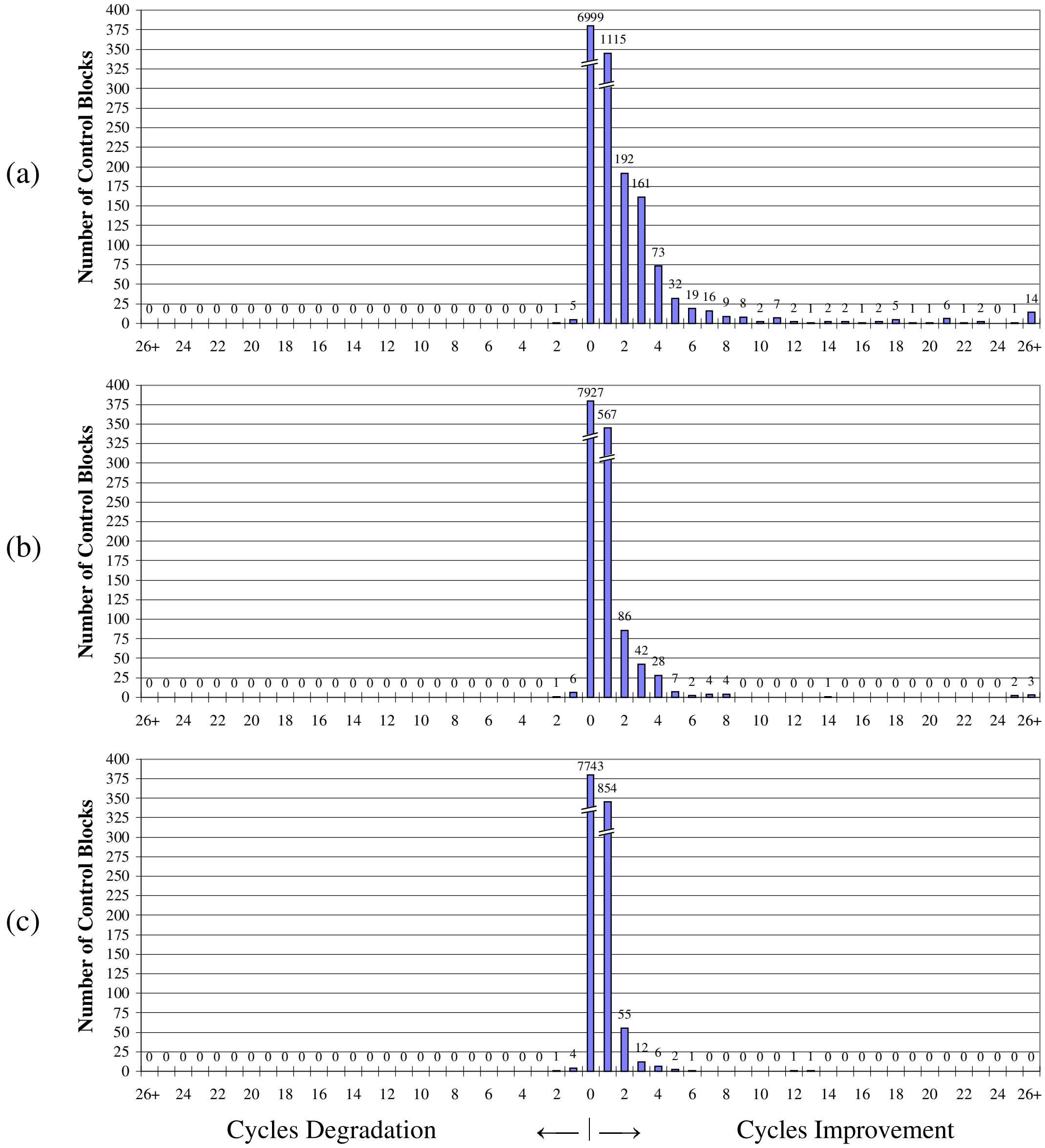

Figure A.36: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the four-issue processor configuration.

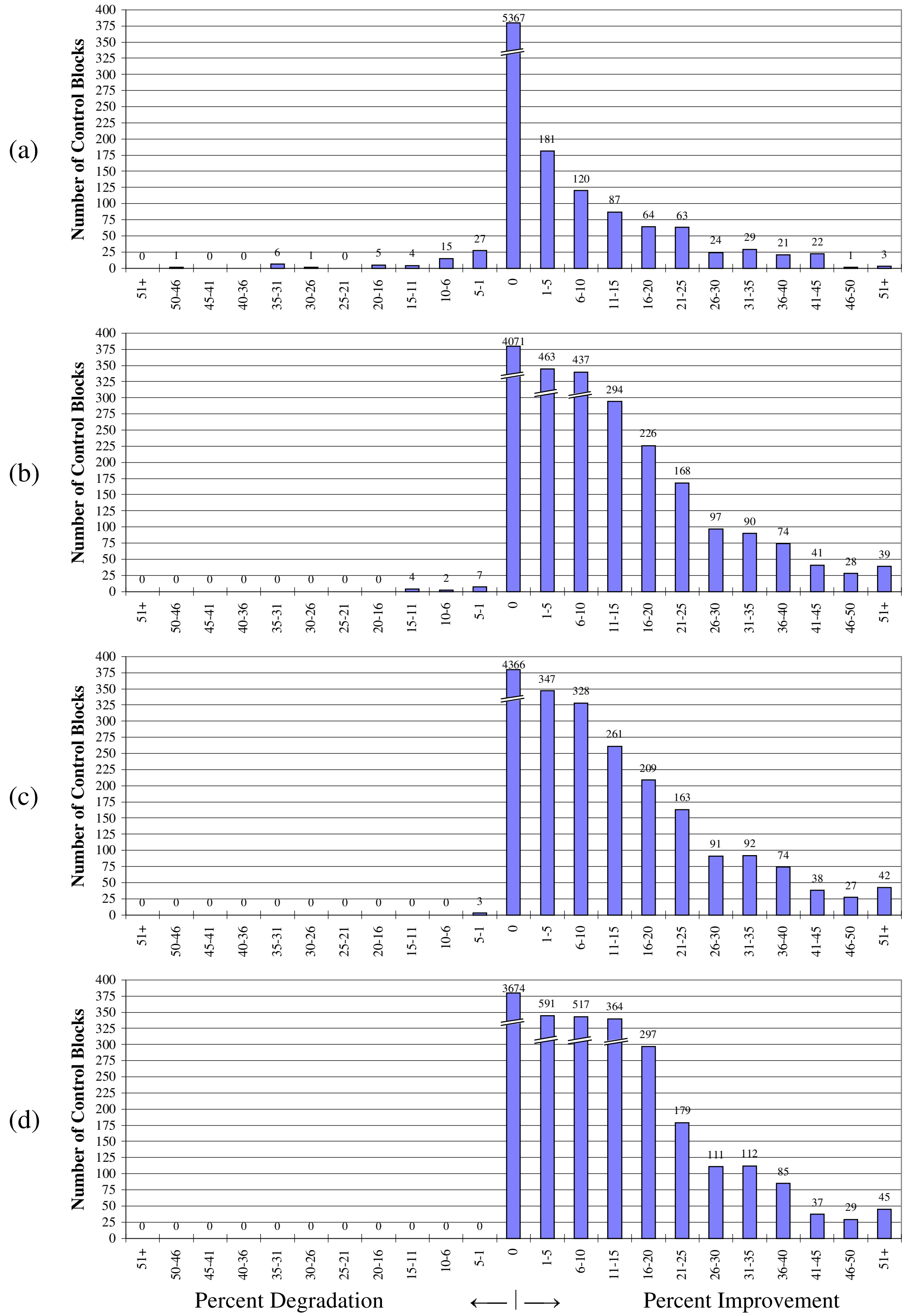

Figure A.37: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the eight-issue processor configuration.

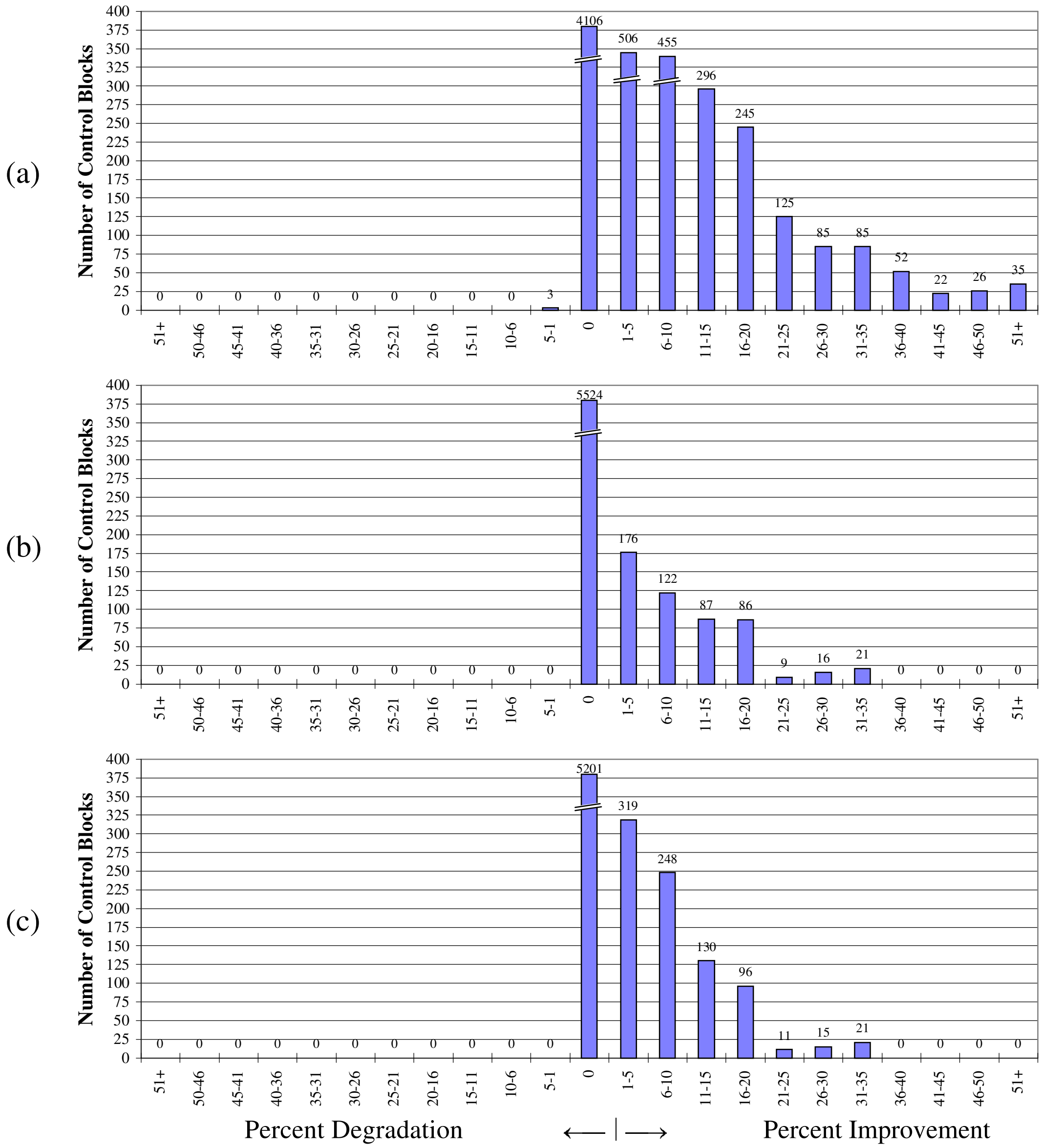

Figure A.38: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the eight-issue processor configuration.

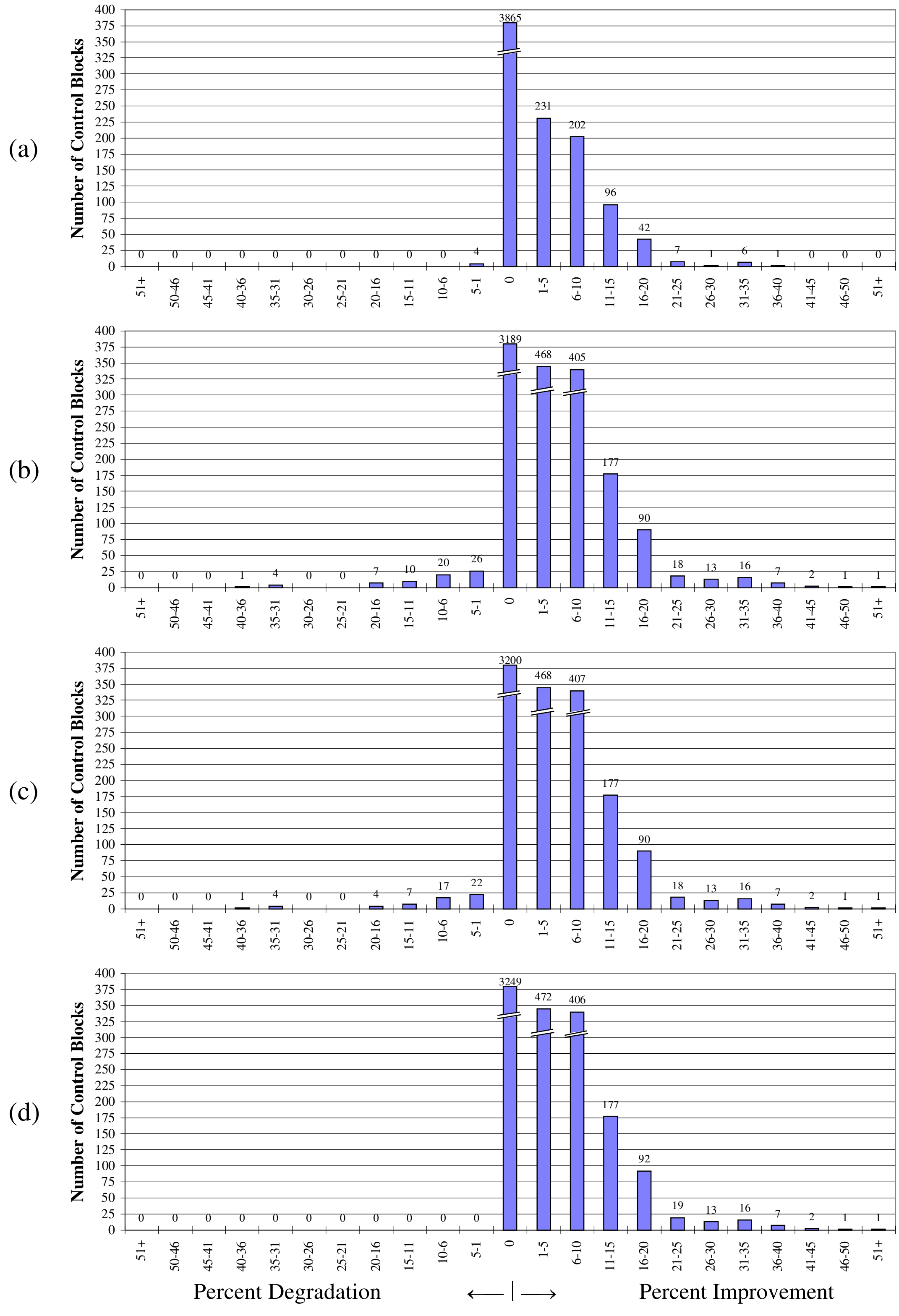

Figure A.39: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the eight-issue processor configuration.

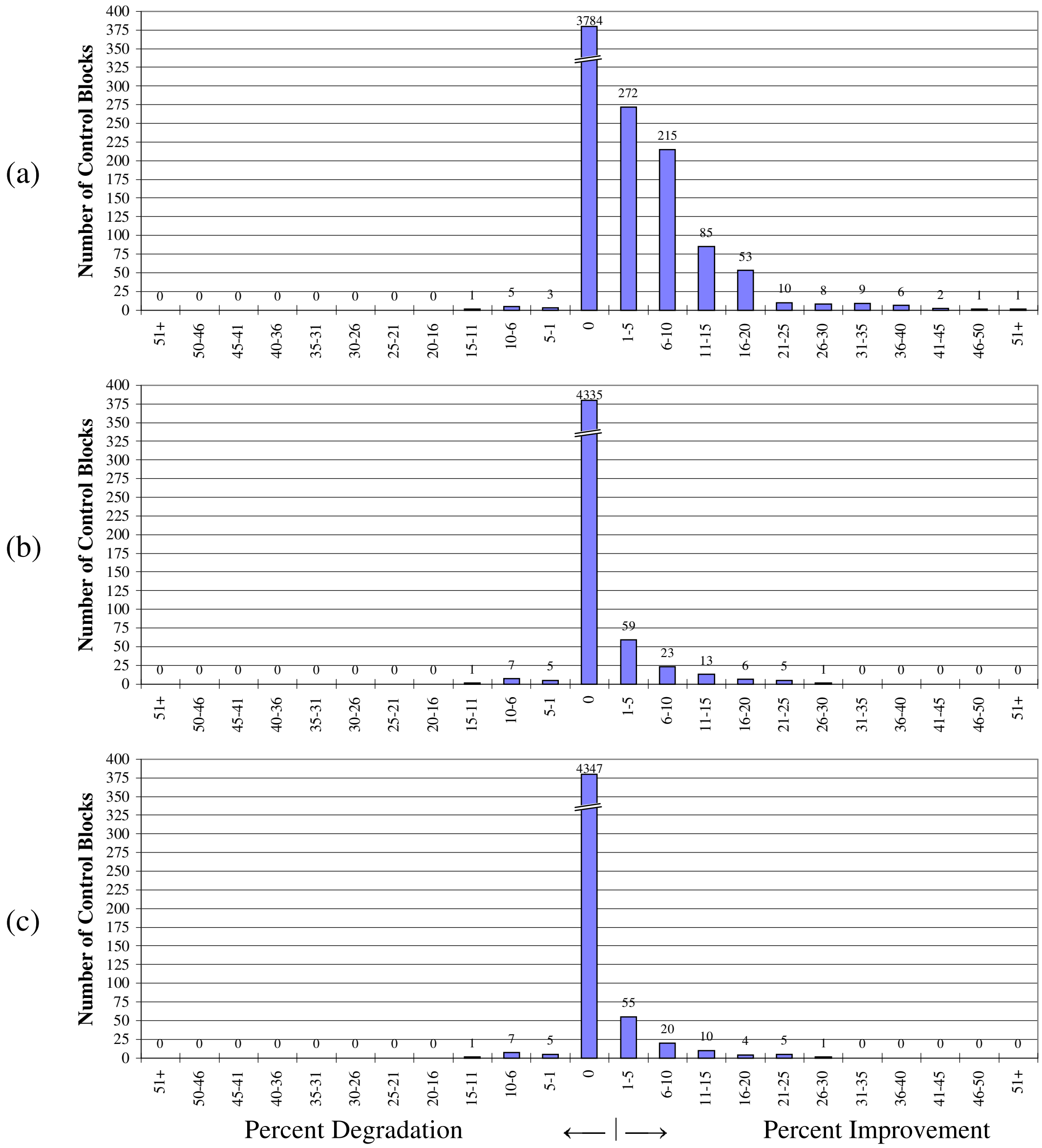

Figure A.40: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the eight-issue processor configuration.

(a)

(b)

(c)

(d)

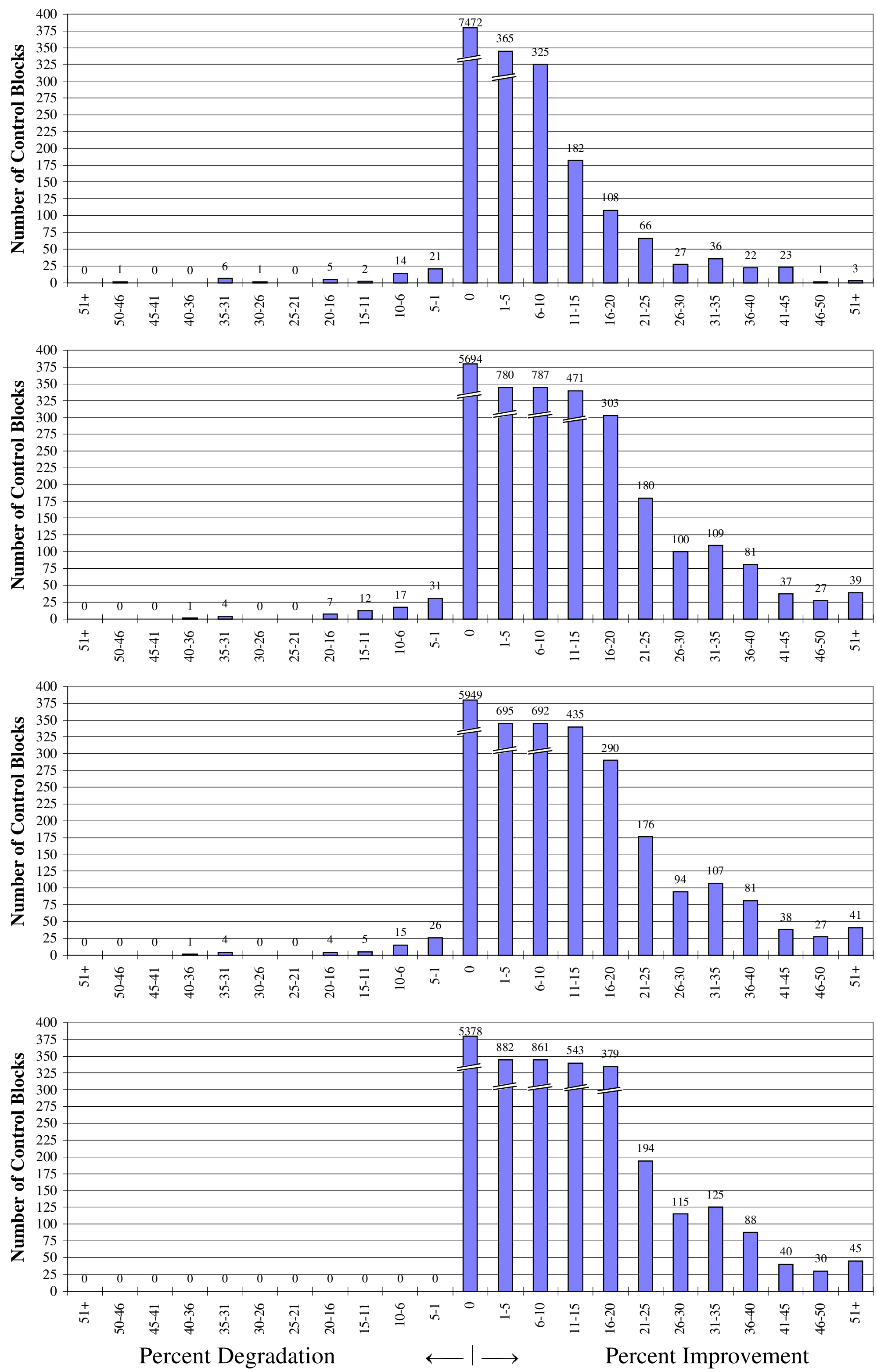

Figure A.41: Percent change for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the eight-issue processor configuration.

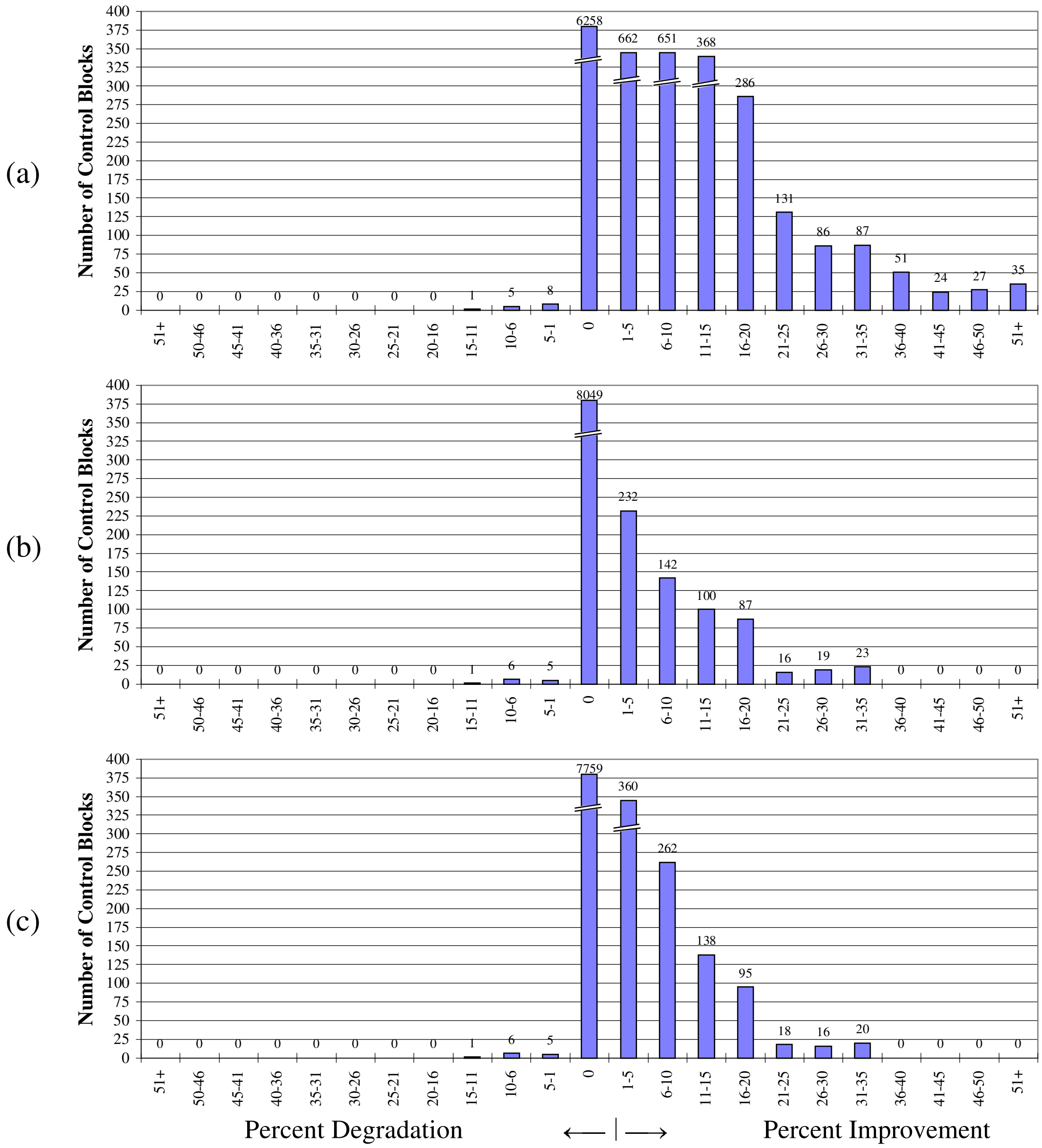

Figure A.42: Percent benefit of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the eight-issue processor configuration.

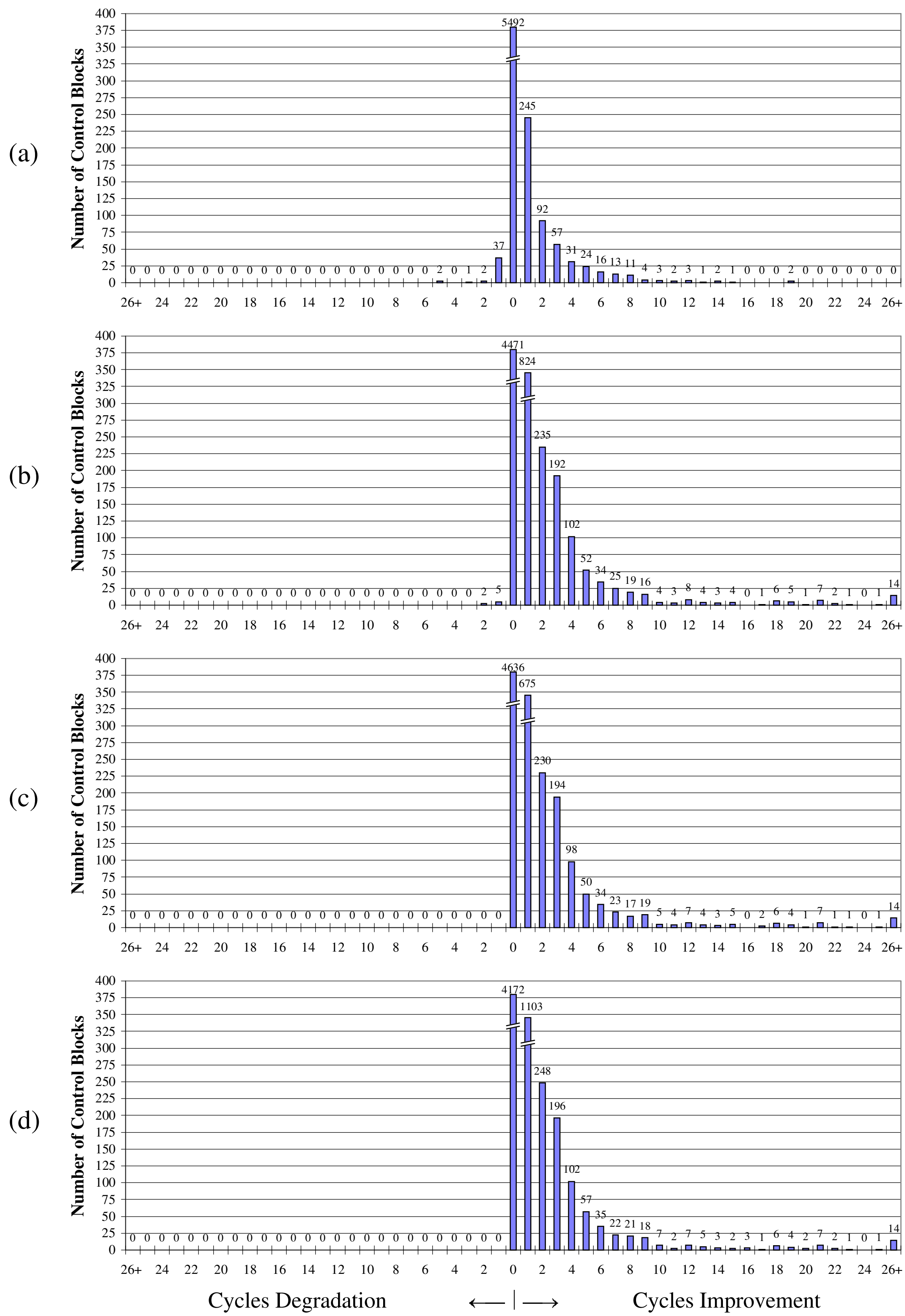

Figure A.43: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of renaming with copy for the eight-issue processor configuration.

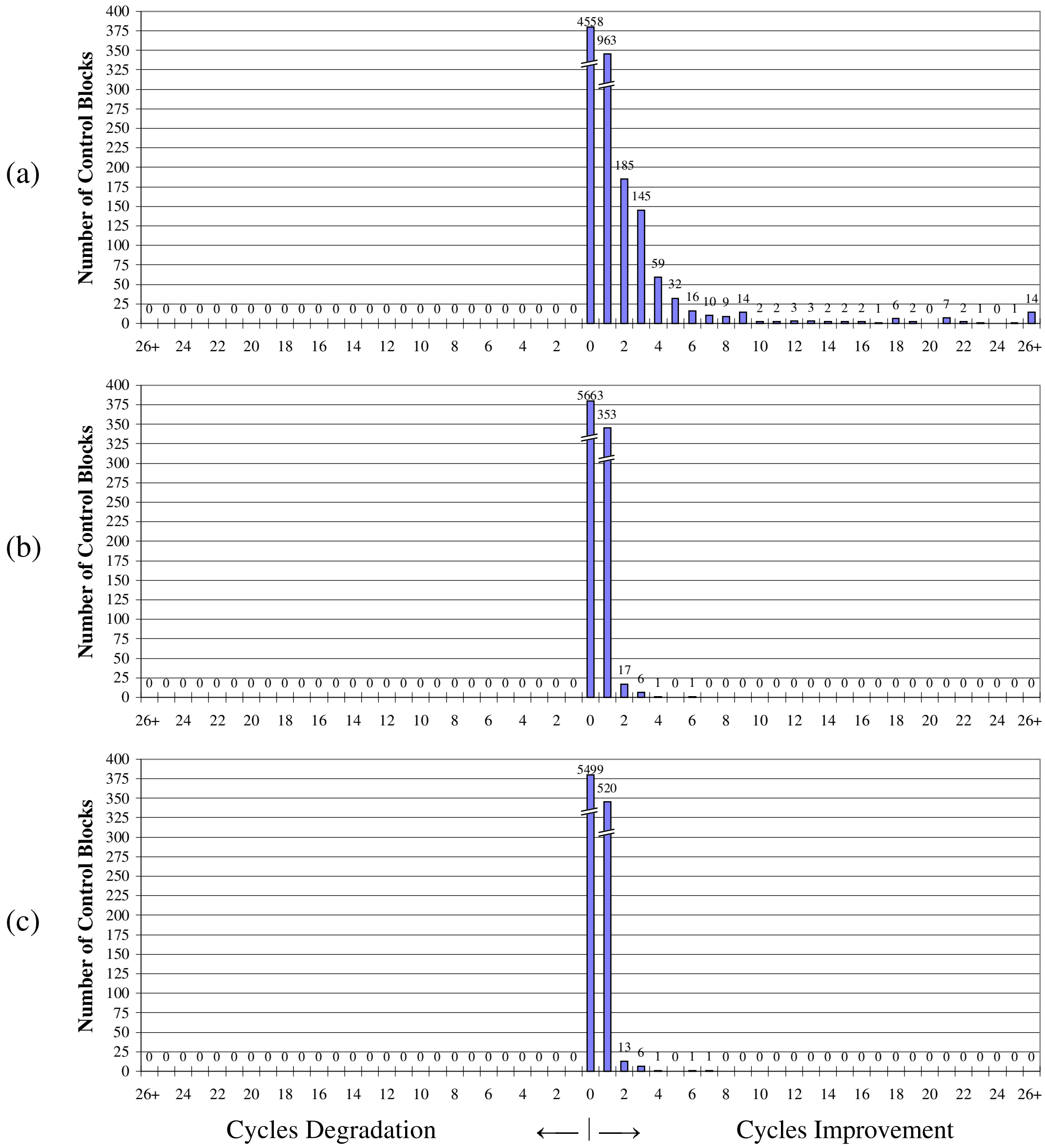

Figure A.44: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of renaming with copy for the eight-issue processor configuration.

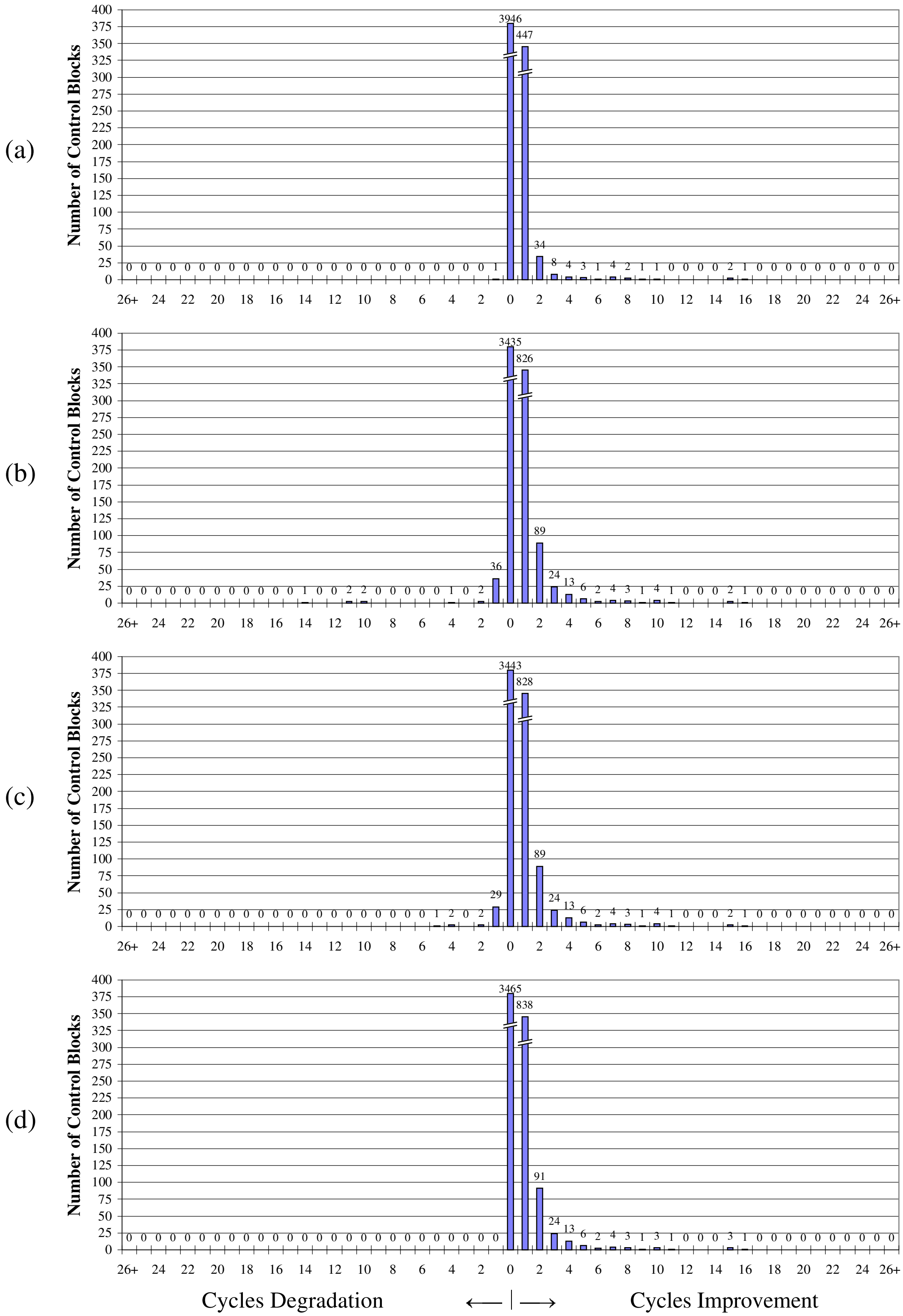

Figure A.45: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of expression reformulation for the eight-issue processor configuration.

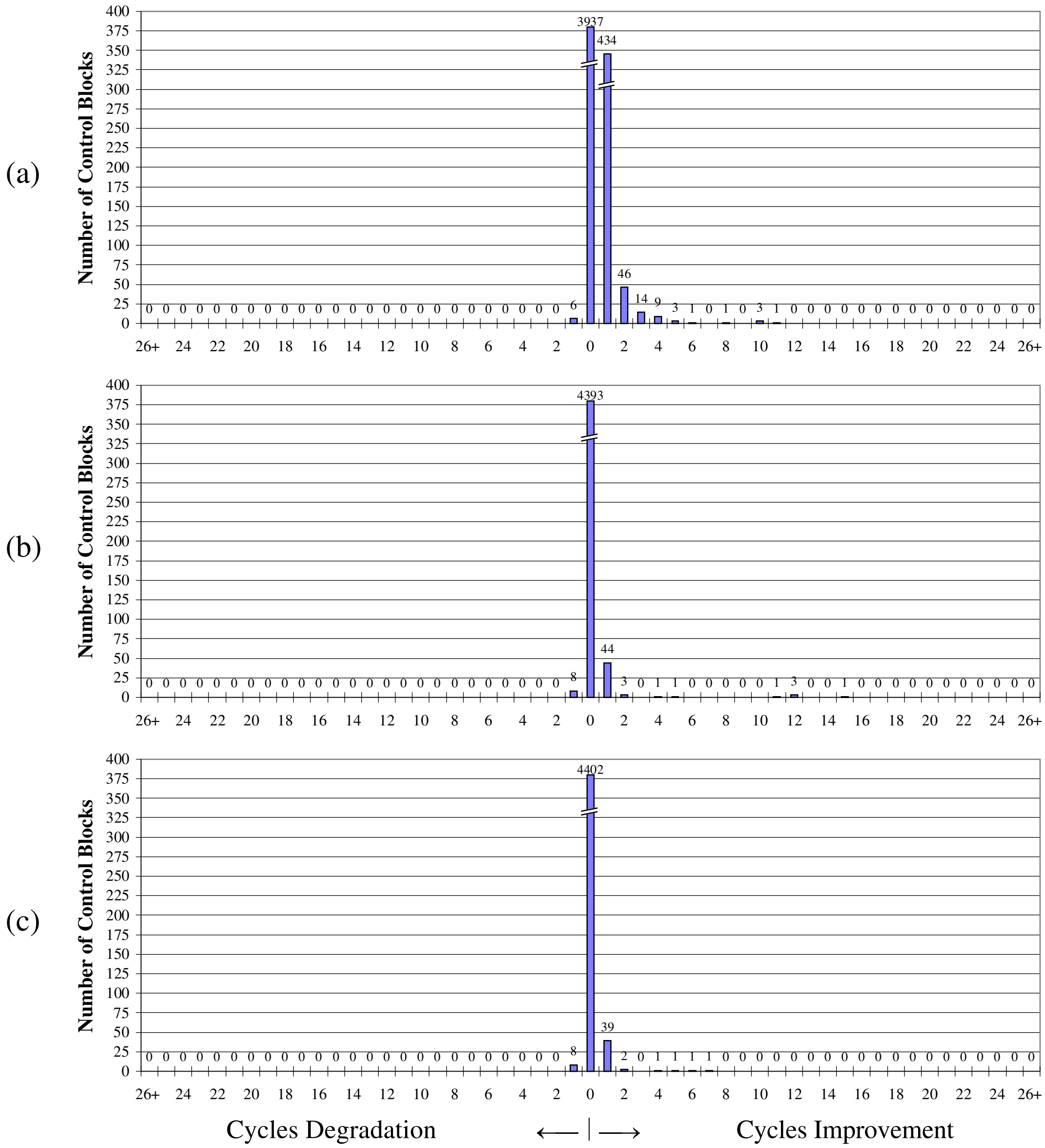

Figure A.46: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of expression reformulation for the eight-issue processor configuration.

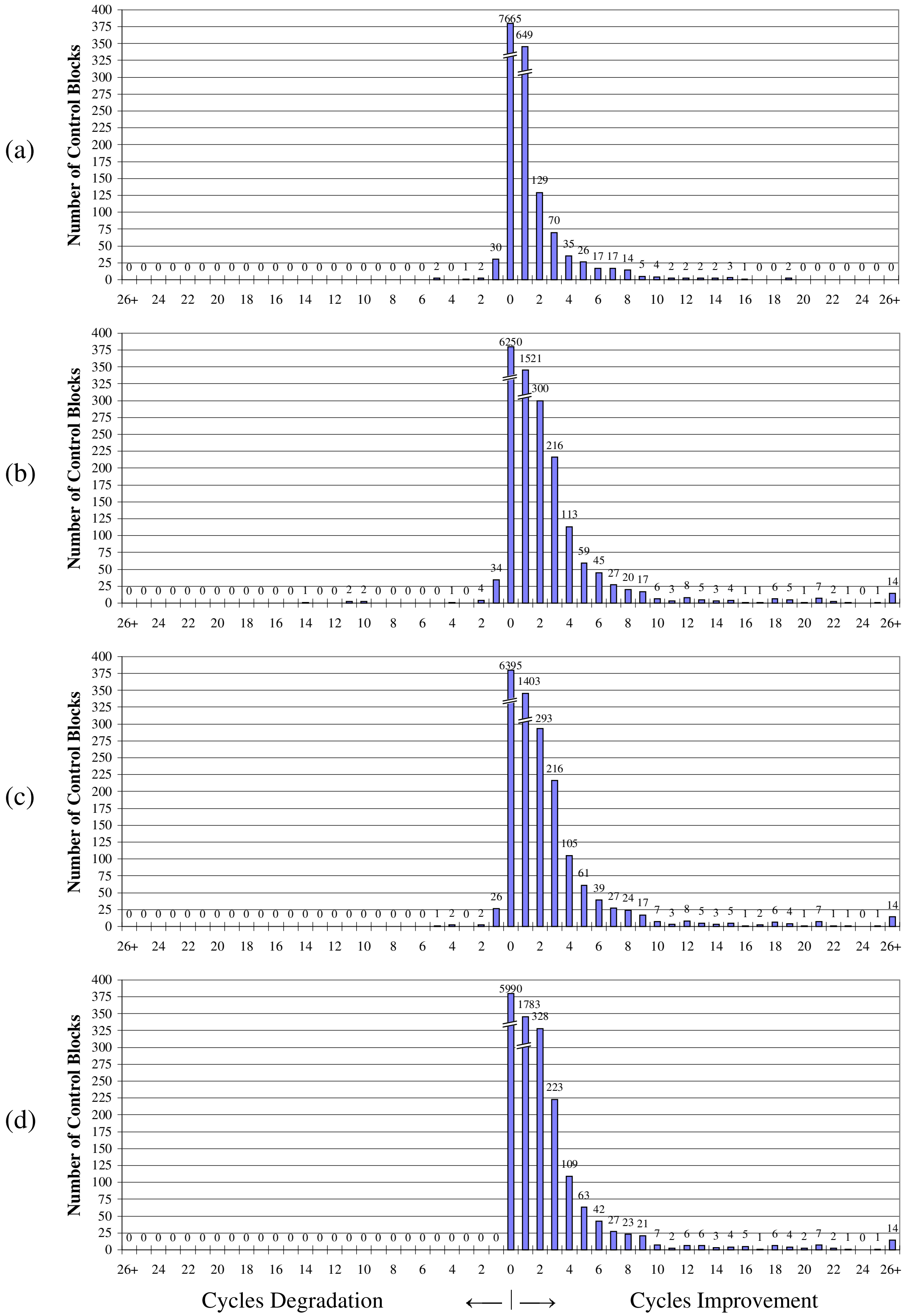

Figure A.47: Change in cycles for (a) heuristic-based, (b) dependence-based, (c) estimate-based, and (d) schedule-based application of both transformations for the eight-issue processor configuration.

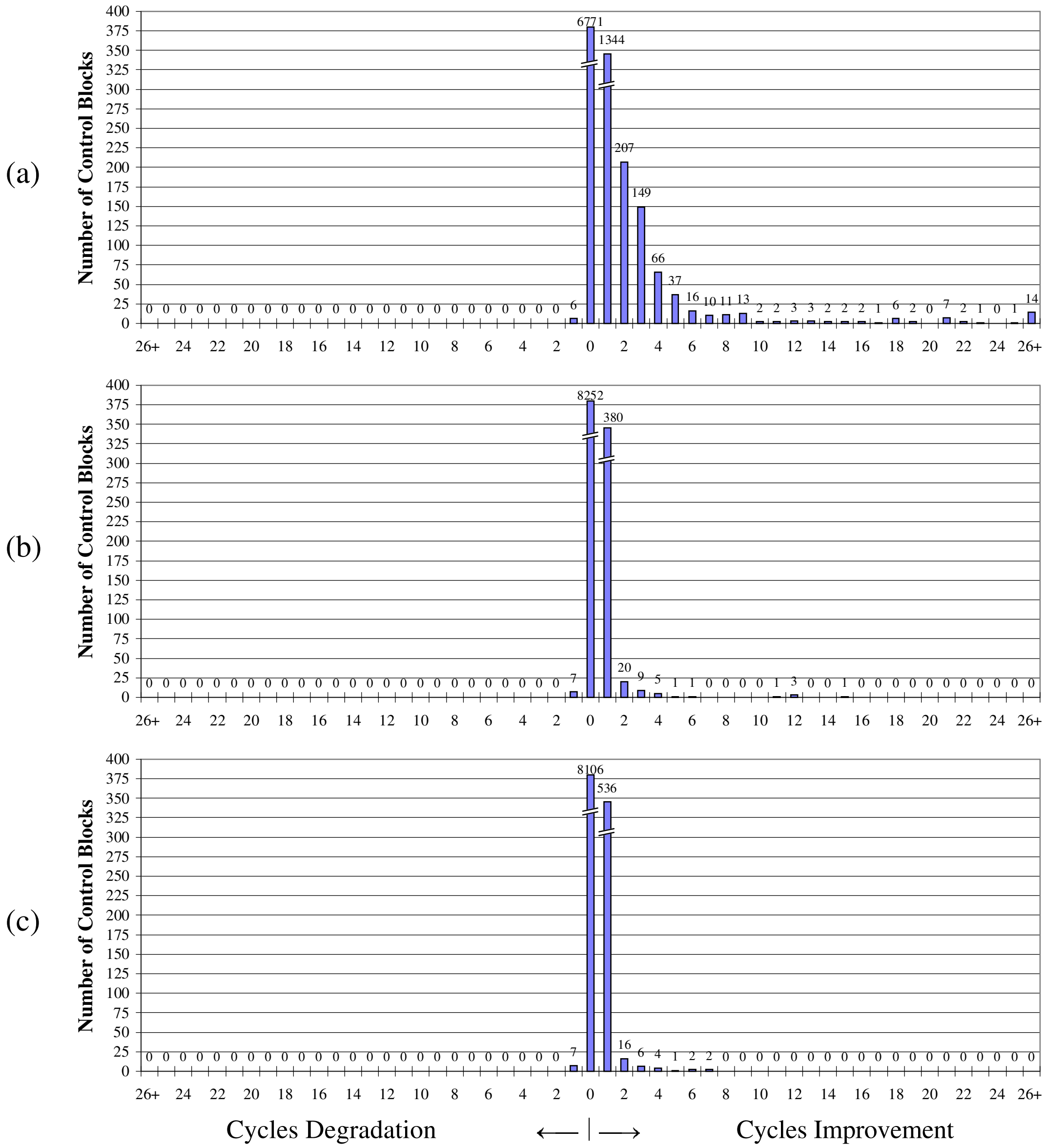

Figure A.48: Benefit in cycles of schedule-based application over (a) heuristic-based, (b) dependence-based, and (c) estimate-based application of both transformations for the eight-issue processor configuration.

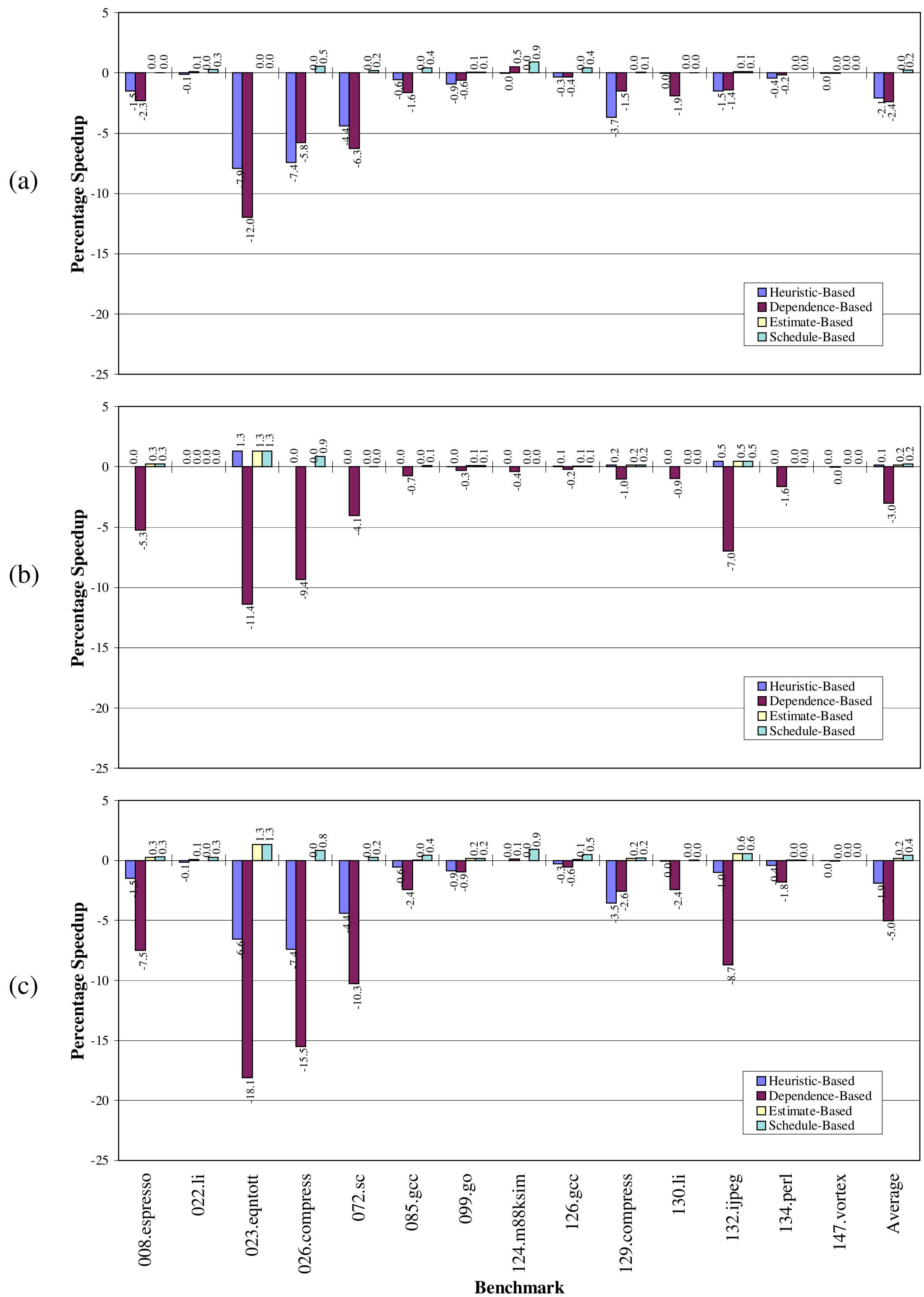

Figure A.49: Speedup due to the application of (a) renaming with copy, (b) expression reformulation, and (c) both transformations for the one-issue processor configuration.

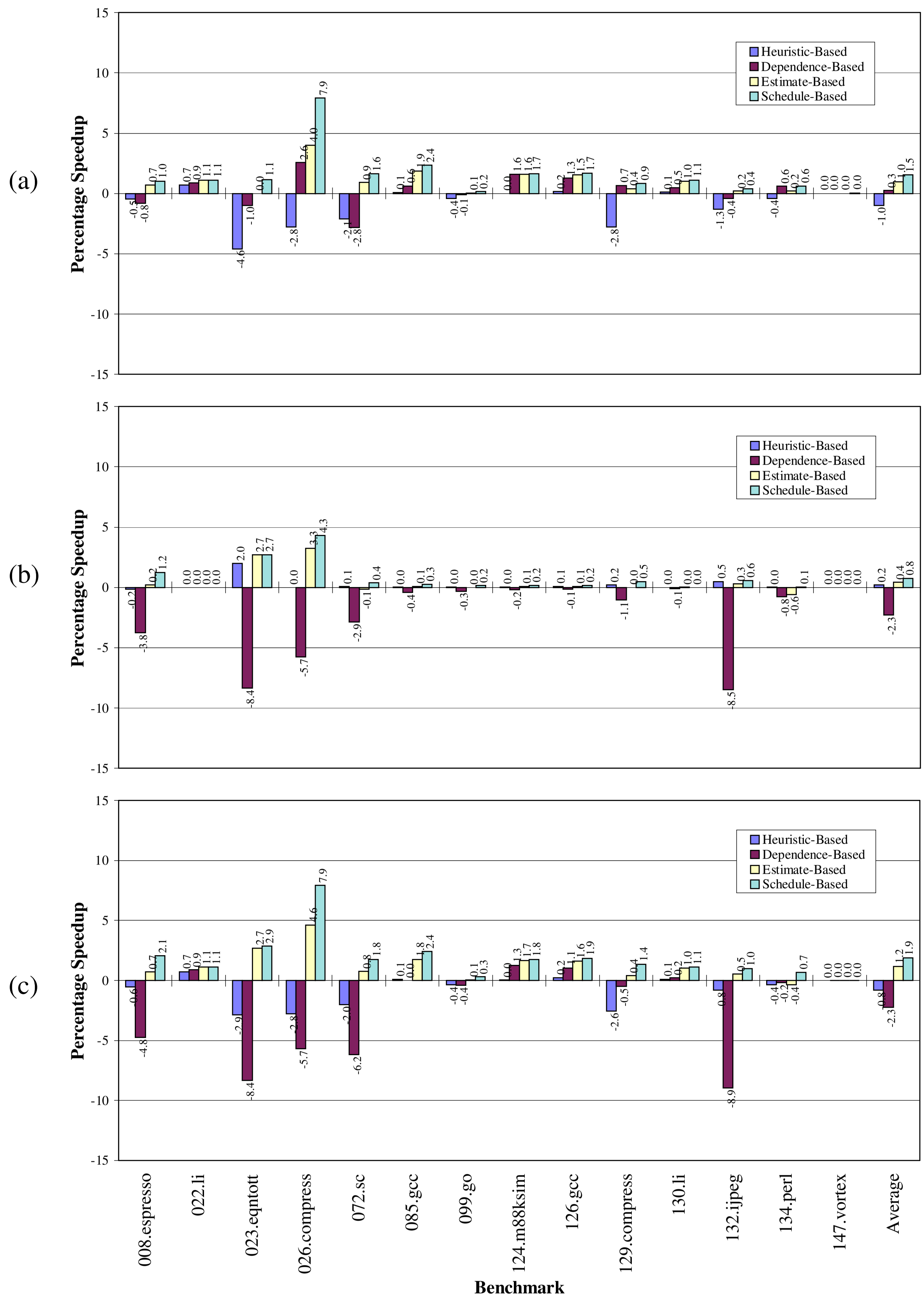

Figure A.50: Speedup due to the application of (a) renaming with copy, (b) expression reformulation, and (c) both transformations for the two-issue processor configuration.

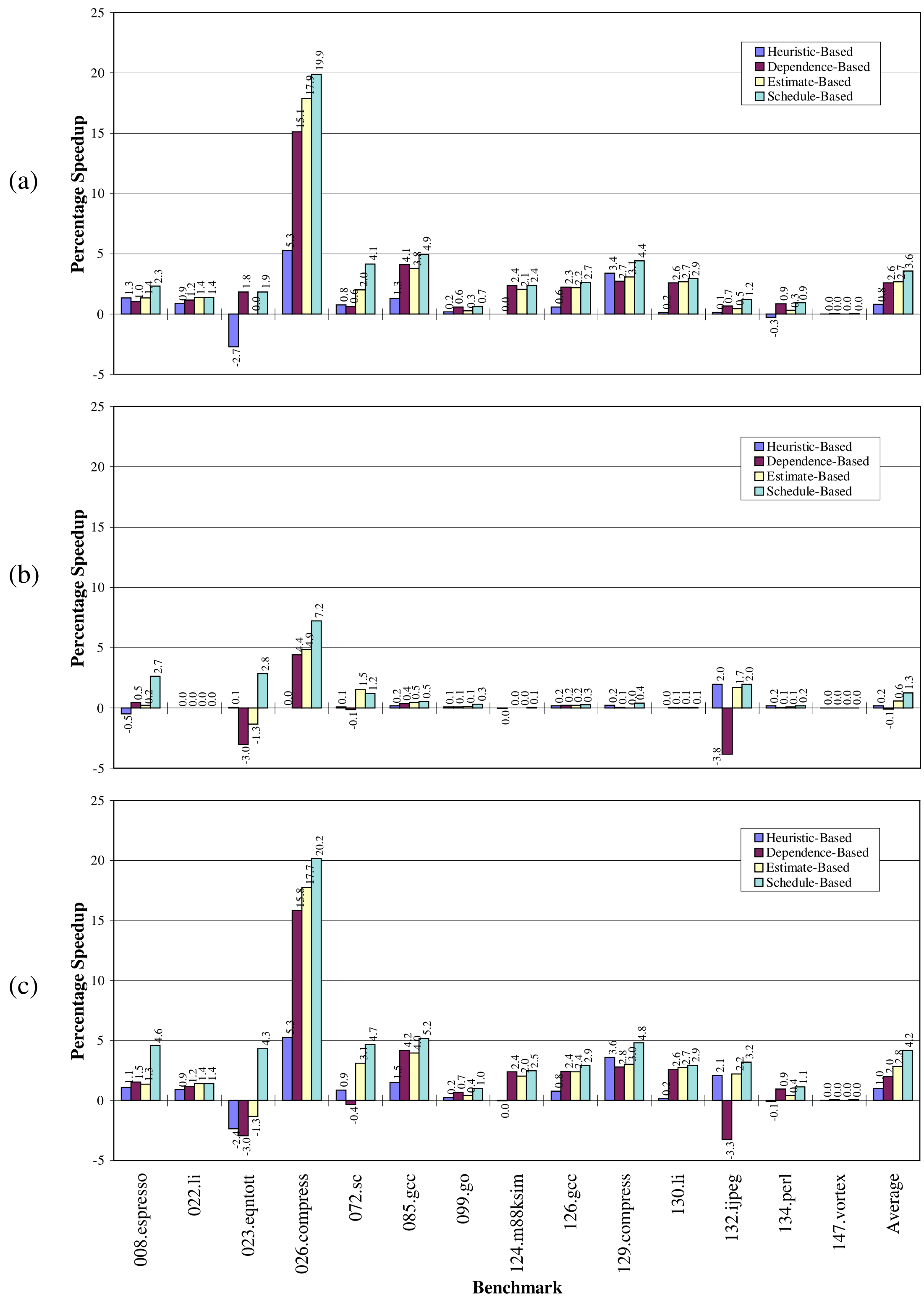

Figure A.51: Speedup due to the application of (a) renaming with copy, (b) expression reformulation, and (c) both transformations for the four-issue processor configuration.

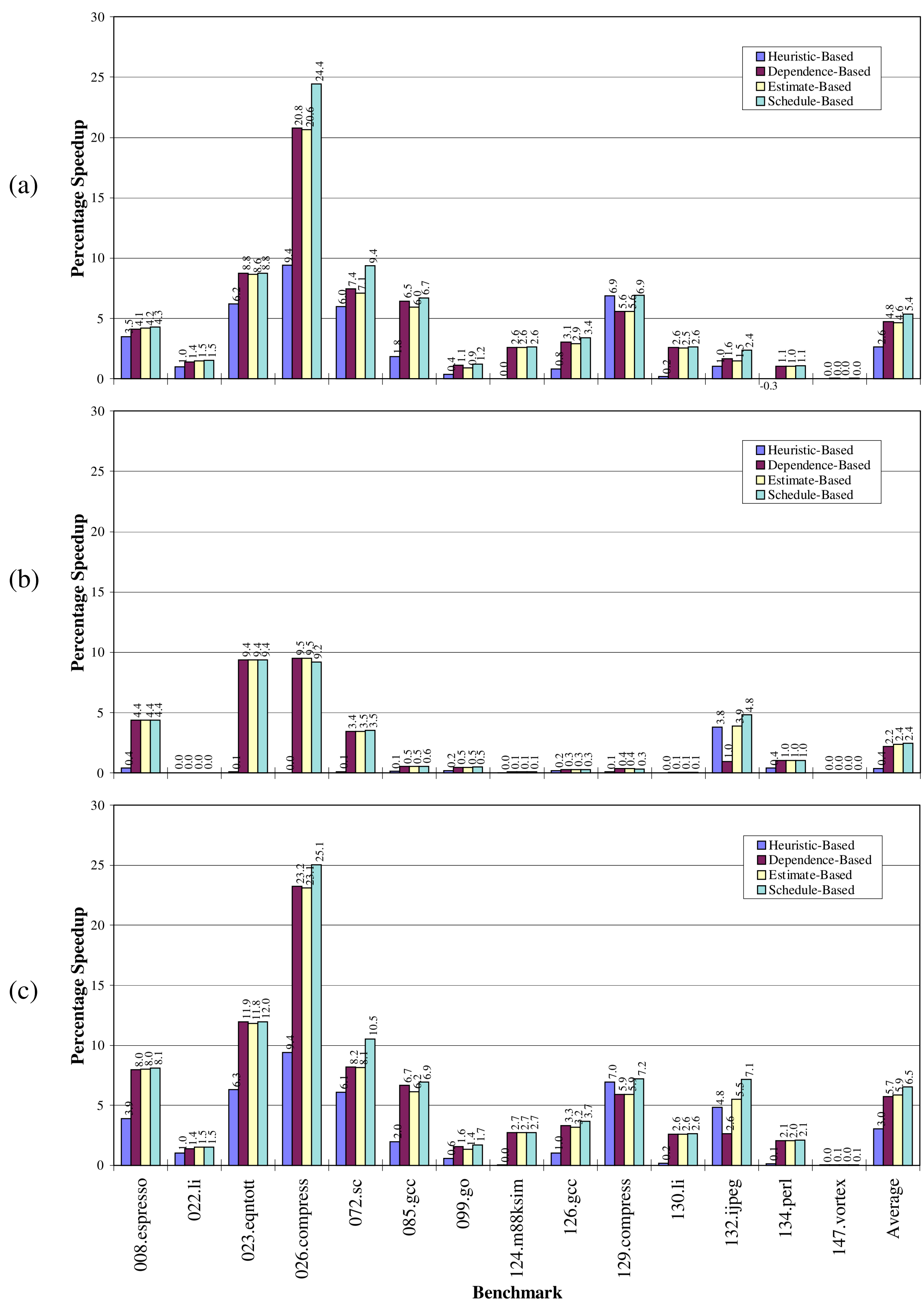

Figure A.52: Speedup due to the application of (a) renaming with copy, (b) expression reformulation, and (c) both transformations for the eight-issue processor configuration.