Untuk mengetahui seberapa besar pengaruh perubahan nilai ruas kanan (b_1) selama masih dalam range terhadap nilai Z dapat ditentukan berdasarkan konsep shadow price.

3. Perubahan fungsi pembatas

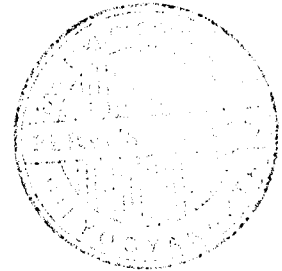   Perubahan fungsi pembatas meliputi dua hal yaitu :

   a. Penambahan batasan baru

      Penambahan batasan baru terjadi karena perubahan sifat sumber daya yang semula tidak terbatas jumlahnya. Penambahan batasan baru akan mempengaruhi solusi optimal apabila sifat aktif dan sebaliknya tidak mempengaruhi solusi optimal jika sifatnya pasif. Untuk itu perlu diperiksa apakah batasan baru tersebut melanggar solusi optimal (aktif) atau melanggar solusi optimal (pasif).

   b. Penambahan variabel baru

      Penambahan variabel baru adalah penambahan kegiatan baru yang menggunakan sumber daya yang sama. Untuk mengetahui bagaimana pengaruh penambahan variabel baru terhadap solusi optimal dapat dilakukan dengan menyelidiki selisih ruas kiri dengan ruas kanan pembatas dual yang baru. Jika selisihnya berharga positif maka penambahan variabel baru tersebut tidak mempengaruhi solusi optimal dan jika berharga negatif akan mempengaruhi solusi optimal.

$$64.53\,X_{120} + 38.84\,X_{220} + 2.9\,X_{320} + 31.12X_{420} + 32.34\,X_{520} + 30.41X_{620} +$$

$$31.26\,X_{720} + 25.31\,X_{820} \le 50400$$

$$64.53\,X_{121} + 38.84\,X_{221} + 2.9\,X_{321} + 31.12\,X_{421} + 32.34\,X_{521} + 30.41\,X_{621} +$$

$$31.26\,X_{721} + 25.31\,X_{821} \le 50400$$

$$64.53\,X_{122} + 38.84\,X_{222} + 2.9\,X_{322} + 31.12X_{422} + 32.34X_{522} + 30.41\,X_{622} +$$

$$31.26\,X_{722} + 25.31\,X_{822} \le 50400$$

$$64.53\,X_{123} + 38.84\,X_{223} + 2.9\,X_{323} + 31.12X_{423} + 32.34\,X_{523} + 30.41\,X_{623} +$$

$$31.26\,X_{723} + 25.31\,X_{823} \le 50400$$

8. Mesin Bor

$$26.99\,X_{119} + 19.25\,X_{219} + 11\,X_{319} + 16.34X_{419} + 17.51\,X_{519} + 19.37\,X_{619} +$$

$$14\,X_{719} + 21.55\,X_{819} \le 70560$$

$$26.99\,X_{120} + 19.25\,X_{220} + 11\,X_{320} + 16.34X_{420} + 17.51\,X_{520} + 19.37X_{620} +$$

$$14\,X_{720} + 21.55\,X_{820} \le 70560$$

$$26.99\,X_{121} + 19.25\,X_{221} + 11\,X_{321} + 16.34\,X_{421} + 17.51\,X_{521} + 19.37X_{621} +$$

$$14\,X_{721} + 21.55\,X_{821} \le 70560$$

$$26.99\,X_{122} + 19.25\,X_{222} + 11\,X_{322} + 16.34X_{422} + 17.51X_{522} + 19.37\,X_{622} +$$

$$14\,X_{722} + 21.55\,X_{822} \le 70560$$

$$26.99\,X_{123} + 19.25\,X_{223} + 11\,X_{323} + 16.34X_{423} + 17.51\,X_{523} + 19.37\,X_{623} +$$

$$14\,X_{723} + 21.55\,X_{823} \le 70560$$

$$30.2\,X_{120} + 35.3\,X_{220} + 31.4\,X_{320} + 29.36X_{420} + 28.22\,X_{520} + 32.3X_{620} +$$

$$29.48\,X_{720} + 32.4\,X_{820} \qquad \leq 50400$$

$$30.2\,X_{121} + 35.3\,X_{221} + 31.4\,X_{321} + 29.36\,X_{421} + 28.22\,X_{521} + 32.3\,X_{621} +$$

$$29.48\,X_{721} + 32.4\,X_{821} \qquad \leq 50400$$

$$30.2\,X_{122} + 35.3\,X_{222} + 31.4\,X_{322} + 29.36X_{422} + 28.22X_{522} + 32.3\,X_{622} +$$

$$29.48\,X_{722} + 32.4\,X_{822} \qquad \leq 50400$$

$$30.2\,X_{123} + 35.3\,X_{223} + 31.4\,X_{323} + 29.36X_{423} + 28.22\,X_{523} + 32.3\,X_{623} +$$

$$29.48\,X_{723} + 32.4\,X_{823} \qquad \leq 50400$$

3. Finishing

$$53.5\,X_{119} + 51.7\,X_{219} + 47.6\,X_{319} + 46.25X_{419} + 56.21\,X_{519} + 45.36\,X_{619} +$$

$$41.36\,X_{719} + 44.56\,X_{819} \qquad \leq 100800$$

$$53.5\,X_{120} + 51.7\,X_{220} + 47.6\,X_{320} + 46.25X_{420} + 56.21\,X_{520} + 45.36X_{620} +$$

$$41.36\,X_{720} + 44.56\,X_{820} \qquad \leq 100800$$

$$53.5\,X_{121} + 51.7\,X_{221} + 47.6\,X_{321} + 46.25\,X_{421} + 56.21\,X_{521} + 45.36X_{621} +$$

$$41.36\,X_{721} + 44.56\,X_{821} \qquad \leq 100800$$

$$53.5\,X_{122} + 51.7\,X_{222} + 47.6\,X_{322} + 46.25X_{422} + 56.21X_{522} + 45.36\,X_{622} +$$

$$41.36\,X_{722} + 44.56\,X_{822} \qquad \leq 100800$$

$$53.5\,X_{123} + 51.7\,X_{223} + 47.6\,X_{323} + 46.25X_{423} + 56.21\,X_{523} + 45.36\,X_{623} +$$

$$41.36\,X_{723} + 44.56\,X_{823} \qquad \leq 100800$$

3. Mesin Thicknesser : $13.2 X_{120} + 9.44 X_{220} + 7.32 X_{320} + 8.56 X_{420} + 11.3 X_{520}$

$+ 10.1 X_{620} + 9.25 X_{720} + 10 X_{820} \leq 50400$

4. Mesin Planner : $32.56 X_{120} + 16.1 X_{220} + 6 X_{320} + 10.42 X_{420} + 21.52 X_{520} +$

$19.18 X_{620} + 19 X_{720} + 21.37 X_{820} \leq 40320$

5. Mesin Serut : $12.08 X_{120} + 9.42 X_{220} + 13.38 X_{320} + 10.12 X_{420} + 14.23$

$X_{520} + 10.26 X_{620} + 14.14 X_{720} + 15.25 X_{820} \leq 100800$

6. Mesin Mortiser : $10.7 X_{120} + 12.3 X_{220} + 11.9 X_{320} + 9.44 X_{420} + 11.3 X_{520} +$

$9 X_{620} + 11.47 X_{719} + 9.58 X_{820} \leq 60480$

7. Mesin Jointer : $64.53 X_{120} + 38.84 X_{220} + 2.9 X_{320} + 31.12 X_{420} + 32.34 X_{520} +$

$30.41 X_{620} + 31.26 X_{720} + 36.21 X_{820} \leq 50400$

8. Mesin Bor : $26.99 X_{120} + 19.25 X_{220} + 11 X_{320} + 16.34 X_{420} + 17.51 X_{520} +$

$19.37 X_{620} + 14 X_{720} + 21.55 X_{820} \leq 70560$

9. Sanding : $30.2 X_{120} + 35.3 X_{220} + 31.4 X_{320} + 29.36 X_{420} + 28.22 X_{520}$

$+ 32.3 X_{620} + 29.48 X_{720} + 32.4 X_{820} \leq 50400$

10. Perakitan : $86.3 X_{120} + 78.5 X_{220} + 69.5 X_{320} + 70.14 X_{420} + 59.54 X_{520}$

$+ 72.23 X_{620} + 79.35 X_{720} + 68.48 X_{820} \leq 80640$

11. Finishing : $53.5 X_{120} + 51.7 X_{220} + 47.6 X_{320} + 46.25 X_{420} + 56.21 X_{520} +$

$45.36 X_{620} + 41.36 X_{720} + 44.56 X_{820} \leq 100800$

12. Permintaan Atlanta Coffee Table : $X_{120} \leq 255$

13. Permintaan Sultan Table : $X_{220} \leq 313$

14. Permintaan Madrid Lamp Table : $X_{320} \leq 368$