Then $W(y_T^*, g_{\bar\theta}, \lambda_T, A\hat{V}_T A') =$

$$[\bar{g}_{\bar\theta}(y_T^*) + O_p(1/\lambda_T)]' \left\{ \left[\bar{G}_{\bar\theta}(y_T^*) + O_p(1/\lambda_T)\right] A[V + o_p(1)]A' \left[\bar{G}_{\bar\theta}(y_T^*) + O_p(1/\lambda_T)\right]' \right\}^{-1}$$
$$\times[\bar{g}_{\bar\theta}(y_T^*) + O_p(1/\lambda_T)].$$

(a) If CLDR holds then W_T by continuity of the determinants of polynomials and polynomial matrices converges to

$$[\bar{g}_{\bar\theta}(Z)]' \left\{[\bar{G}_{\bar\theta}(Z)]AVA'[\bar{G}_{\bar\theta}(Z)]'\right\}^{-1} [\bar{g}_{\bar\theta}(Z)];$$

substituting the reparametrized functions for $A = V^{-\frac{1}{2}}$ we get the result.

(b) Follows by continuity of the determinants of polynomial matrices and (24) . ■

Proof of Theorem 5.1. Consider the asymptotically equivalent statistic:

$$\begin{aligned}
& Z'\bar{G}(Z)'\Lambda\left[\bar{G}(Z)\bar{G}(Z)'\right]^{-1}\Lambda\bar{G}(Z)Z \\
= \;& Z'\bar{G}(Z)'\left(\bar{G}(Z)\bar{G}(Z)'\right)^{-\frac{1}{2}} \\
& \times\left[\left(\bar{G}(Z)\bar{G}(Z)'\right)^{\frac{1}{2}}\Lambda\left(\bar{G}(Z)\bar{G}(Z)'\right)^{-\frac{1}{2}}\left(\bar{G}(Z)\bar{G}(Z)'\right)^{-\frac{1}{2}}\Lambda\left(\bar{G}(Z)\bar{G}(Z)'\right)^{\frac{1}{2}}\right] \\
& \times\left(\bar{G}(Z)\bar{G}(Z)'\right)^{-\frac{1}{2}}\bar{G}(Z)Z \\
\leq \;& \left\|\left(\bar{G}(Z)\bar{G}(Z)'\right)^{-\frac{1}{2}}\bar{G}(Z)Z\right\|^2 \left\|\left(\bar{G}(Z)\bar{G}(Z)'\right)^{\frac{1}{2}}\Lambda\left(\bar{G}(Z)\bar{G}(Z)'\right)^{-\frac{1}{2}}\right\| \\
& \times\left\|\left(\bar{G}(Z)\bar{G}(Z)'\right)^{-\frac{1}{2}}\Lambda\left(\bar{G}(Z)\bar{G}(Z)'\right)^{\frac{1}{2}}\right\| \\
\leq \;& \|\Lambda\|^2\|Z\|^2 \sim \frac{1}{(1+i_0)^2}\chi_p^2,
\end{aligned}$$