

Gergely Harcos has kindly passed on the following corrections:  
 Formula (16) as stated is incorrect. It should instead state

$$\Psi_{\Gamma}(x + u) - \Psi_{\Gamma}(x) = u + O(u^{\frac{1}{2}}x^{\frac{1}{4} + \frac{\theta}{2} + \varepsilon} + x^{\frac{1}{2} + \frac{\theta}{2} + \varepsilon} + ux^{-1}).$$

The extra term  $x^{\frac{1}{2} + \frac{\theta}{2} + \varepsilon}$  arises from (21) where  $u$  on the right hand side should be  $u + X$ . Then the optimal  $V$  at the end of Section 5 becomes  $V = (u + X)X^{-1+2\theta}$ , and this ensures  $V \geq 1$  as well (which was assumed earlier). The additional term  $ux^{-1}$  comes from the  $O(x^{-1})$  term in (21).

An alternative way to correct (16) is to suppose that  $k(u)$  is supported in  $(x^{1/2}, Y)$ , and to restrict (16) to  $x \geq u \geq x^{1/2}$ .

As a result, formula (17) should instead state

$$\Psi_{\Gamma}(x) = x + E(x; k) + O(Y^{\frac{1}{2}}x^{\frac{1}{4} + \frac{\theta}{2} + \varepsilon} + x^{\frac{1}{2} + \frac{\theta}{2} + \varepsilon} + Yx^{-1})$$

With the choice of  $Y = x^{\frac{5}{6} - \frac{\theta}{3}}$ , the additional error terms are smaller than originally-claimed error term, so the exponents in the main Theorem 1.1 are unaffected.